

# American Gas *Association* MONTHLY

Tulsa Natural Gas Convention

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Value of Water Heating Load

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Court and Commission Rulings

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Taxation Accounting Methods

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The Economics of Gas Engines

*June*

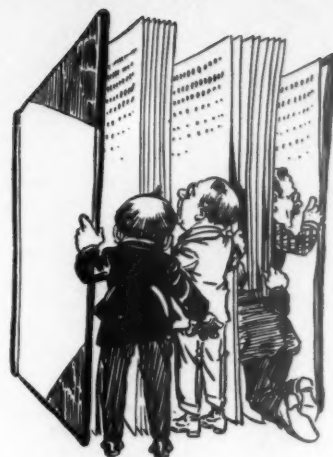


1939

VOLUME XXI NUMBER 6

*You'll Find It!*

*in the*



1938 A. G. A.

# PROCEEDINGS

Although no one has yet said the A.G.A. Proceedings is light, summer weather reading, and we would hesitate to do so ourselves, we do recommend the 1938 volume for a *prominent* place on your office library shelf. "Where will I find something on refrigeration?", the gas man might ask himself, and the odds are heavy that the Proceedings has a valuable reference. (Well, page 294 to be exact.) Imagine the case of Rufus Flame, Blanktown Gas Company, who is delivering a speech on office management at the local convention. Rufus knows that he will receive valuable material and inspiration by reading pages 203 and 211.

To save the harried executive or what-have-you from further cares in life, diversified material has been so carefully indexed and arranged that even the love-sick secretary will immediately discover that paragraph on pipe tubes and fittings. As word comes from the A.G.A. stock room that the supply of '38's is low, it might be to your advantage to order your copy now. The customary prices, \$3.00 to members and \$7.00 to others, still prevail.



# CONTENTS FOR JUNE 1939



As one newspaper columnist in Tulsa said, the natural gas convention was "different." It was different because of flawless management, overflow attendance at all meetings, wholehearted local hospitality, and general excellence of material presented. No brief resumé can do justice to the meeting but the highlights are reported in this issue. Attention is called particularly to Chairman Weymouth's review of an active and successful year. . . . Perhaps the most important single event of the year was the passage of the Natural Gas Act. Its significance and far-reaching effect, as well as other regulatory matters, are discussed with authority by Mr. Dougherty. . . . Featured in this issue is the first part of a national prize-winning water heater essay by Mr. Howe. It is an exhaustive analysis of a vital load. . . . Two more contributions to the Science of Selling conclude our symposium of gas company sales plans and policies. Twelve articles in all starting in the April issue, make up this valuable cross section of promotional methods. . . .

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Gas industry officials are well pleased with the Court of Flames Exhibit at the New York World's Fair. Shown on the terrace are, left to right: George Rector, host at the exhibit, Hugh Cuthrell, William Rasch, N. T. Sellman, Merrill N. Davis and C. W. Berghorn, all officers of Gas Exhibits, Inc., or Court of Flames, Inc.





JAMES M. BEALL, *Editor*

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## TULSA CONVENTION ... A Natural Gas Industry Milestone

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**V**IRTUALLY every state in the nation was represented at the annual convention of the Natural Gas Section of the American Gas Association, which concluded its highly successful meetings at Tulsa, Oklahoma, May 11. With approximately 800 registered delegates and hotel registrations indicating an influx of more than 2000 visitors during the convention, attendance fully came up to advance predictions. The four-day program included many meetings which were being held at a natural gas convention for the first time. In spite of these innovations and the variety of attractions, overflow attendance at most meetings was reported.

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The program offered many eminent speakers from both within and without the industry who were unanimous in their optimistic outlook on the industry's future. Wide-spread expression was given to this faith in the future of natural gas. Its past record and future possibilities were painted in glowing terms.

Tulsa as the gas and oil capital of the southwest was a perfect setting for the meeting. Its hospitality and facilities met with wholehearted approval. The Oklahoma Natural Gas Company, as host company, earned the thanks of the visitors.

Attractive entertainment features interspersed the business program. The Grand Ball was held Wednesday evening. Highlight of the convention functions, however, was the trip Thursday afternoon to the Woolaroc Ranch. Here as guests of Frank Phillips, chairman of the board of the Phillips Petroleum Company, the visitors enjoyed a Buffalo Barbecue and real western entertainment.

The business program got under way Monday morning with simultaneous meetings of the following six groups: domestic sales, industrial sales, production, transmission, accounting and employee education. The industrial and transmission meetings extended into the afternoon and were augmented by an accident prevention conference.

General sessions opened Tuesday morning with Thomas R. Weymouth, vice-president, Columbia Gas and Electric Corporation, New York, and chairman of the Natural Gas Section, presiding. During the convention, Mr. Weymouth alternated as chairman with Elmer F. Schmidt, vice-president, Lone Star Gas Co., Dallas, Texas, who is vice-chairman of the Section.

Following an address of welcome by Dr. T. A. Penney, Mayor of Tulsa, Mr. Weymouth delivered the Chairman's address in which he reviewed the outstanding developments of the year. His remarks are reproduced in full in this issue of the MONTHLY. Throughout the meeting praise was heard on all sides for the splendid leadership of Mr. Weymouth, not only during his administration but in years past. He has made many major contributions toward the advancement of the industry.

Baird H. Markham, director, American Petroleum Industries Committee, New York, N. Y., speaking on "Business Relationship with Government," called attention to the huge burden of debt being created by the government, and the tendency to rely on business to foot the bill. "During the past few years," he said, "there has been a definite shift in taxation to business." He cited the 201 different types of taxes saddled upon the petroleum industry as a typical example of this trend.

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The gas industry is fully mobilized and ready for any eventuality, Conrad N. Lauer, president, American Gas Association and president, The Philadelphia Gas Works Company, told the convention. He stressed the organization of the industry particularly as exemplified in the Association and called it a going concern 365 days a year.

At a luncheon session following the first general session, Frank R. Denton, president, Mellon Securities Corporation, Pittsburgh, commented on the present high credit position of the natural gas industry. The principal reasons for this position, Mr. Denton stated, "are that in the first place



*At the extreme right in the first picture is Thomas R. Weymouth, chairman, Natural Gas Section, talking to H. C. Cooper, chairman, Main Technical and Research Committee. Left to right: Merrill N. Davis, Bradford, Pa.; C. H. M. Burnham, Kansas City, Mo.; G. I. Rhodes, New York City; R. M. Conner, Cleveland; Mr. Cooper; Mr. Weymouth; R. O. Cox, Dallas; R. F. Dowey, Dallas; J. Agee, Waco; J. W. Moore, Birmingham*

the banker, the bond buyer and the consumer are thoroughly convinced of the value of natural gas as a fuel. In the second place they are convinced that adequate gas reserves exist and are available to the companies in which they are interested and they realize that long-distance transmission of gas from these large markets is practical. In the third place, the industry has been realistic in its attitude with respect to methods of financing, and finally the industry has competent management."

#### *Major Role of Natural Gas*

Mr. Denton declared that the discovery of vast new supplies of gas in the South and Southwest and the development of greater economy in long distance transmission of gas through better trenching and pipe laying methods, and material advances in the art of pipe manufacture, had greatly increased the national importance of the industry.

The second general session opened with an address by Edward R. Guyer, president, Association of Gas Appliance and Equipment Manufacturers, New York, entitled, "It's Only the Beginning." Mr. Guyer paid tribute to the work of the manufacturers in developing more efficient and attractive gas-burning equipment, and forecast even greater advances in the future.

A brief summary of the myriad activities at American Gas Association headquarters was presented by Alexander Forward, managing director. Mr. Forward emphasized the major role of the natural gas men in the Association's work. He complimented Chairman Weymouth and E. H. Poe, secretary of the Natural Gas Section, for their splendid accomplishments during the year.

Advertising is increasing sales of natural gas through opening new marketing territories and creating new uses



*L. D. Black, Jr., Ennis, Texas, district manager for Community Natural Gas Company and winner of first prize in the Natural Gas Section's national essay contest on "The Duties of a District Manager"*

for the product, P. C. Lauinger, president, The Oil and Gas Journal, Tulsa, said in his talk entitled "Advertising Is Good Business." He was wholehearted in his praise of the national advertising campaign conducted by the American Gas Association. This campaign, he declared, "has given to the American consumer, both domestic and industrial, a new and broader conception of the value of gas as a basic commodity, as an unrivaled fuel, as a great public convenience and human bene-

*Below, left to right: P. McDonald Biddison, Dallas; Harry Southard, South Bend; F. R. McMurray, South Bend; H. Carl Wolf, Atlanta; H. V. Potter, Tulsa; Frank B. Long, Tulsa; Robert D. Hendee, Colorado Springs; R. H. Hargrove, Houston; N. C. McGowen, Shreveport, past president, American Gas Association; J. D. Creveling, New York*





Left to right: Harry D. Hancock, New York City; Clay Briggs, Cities Service Gas Co.; W. E. Derwent, Rockford; H. D. Grabusen, New York City; Elmer F. Schmidt, Dallas, vice-chairman, Natural Gas Section; J. D. Creveling, New York; Harold Mueller; Paul Kreuch; J. French Robinson, Pittsburgh

Clyde E. Halloren, engineer of The Gas Service Company at El Dorado, Kansas, who won first prize in the Natural Gas Section's national essay contest in the division confined to local managers



factor. In countless places it has dignified the business you operate, the commodity you sell and the service you give. It has won the appreciation and respect of the housewives and business men and widened the demand for your product."

Mr. Lauinger advocated a comprehensive plan of public relations work on the part of the gas industry. He said public relations is more than publicity or advertising; it is in reality a new form of insurance; a protection

against public disrespect, indifference and lack of confidence.

Under the title, "Men and Machines," Louis Ruthenburg, president, Servel, Inc., Evansville, Ind., presented a most interesting and impressive story of the gas refrigerator and its place in the industry. With the aid of slides he described research constantly in progress at the factory to further perfect the gas refrigerator. Our most fundamental, mutual problem, he declared "is that of organizing, training and administering manpower in such manner as to accomplish optimum results for the gas industry by means of the tools which Servel, Inc. is in a position to deliver."

P. McDonald Biddison presented a paper prepared by himself and Ed. C. Connor, both consulting engineers of Dallas, on "Fair Value and Fair Return." He reviewed court decisions on the question and considered "going concern value," long recognized by the higher courts in valuation cases.

An authoritative discussion of the effect of recent court and commission decisions on the natural gas industry was presented by William A. Dougherty, counsel, Standard Oil Company (New Jersey), New York, N. Y. Mr. Dougherty's paper is reproduced in full in this issue of the MONTHLY.

#### Pioneers Honored

Two of the 13 men who founded the Natural Gas Association of America, which later merged with the American Gas Association, were honor guests at the Chairman's Luncheon following the second general session, Wednesday—Col. M. W. Walsh, general superintendent of the Louisville Gas and Electric Co., Louisville, Ky., and C. W. Sears, retired, of Pasadena, Calif. Mr. Sears was in the natural gas business in Kansas when the Association was formed and Col. Walsh was active in Kansas and Oklahoma. Col. Walsh was with the Oklahoma Gas and Electric Co. and had charge of the work of

Below, left to right: M. W. Walsh, Louisville; C. W. Sears, Pasadena; Miss Mary Spear, New York City; F. F. Finney, Bartlesville; R. G. Soper, Dallas; Lucian Kahn, Cincinnati; Mrs. R. G. Soper, Dallas





*View of the Chairman's Luncheon, held Wednesday of convention week in honor of the founders of the natural gas association*

getting natural gas into Oklahoma City. He was located in Oklahoma City from 1907 to 1913, when he transferred to Louisville to take the position he now holds.

Wednesday afternoon the program of the convention was arranged by the Main Technical and Research Committee with H. C. Cooper, of Pittsburgh, chairman, presiding. Subcommittees on gas measurement, on pipe lines and gas well deliveries made their reports and W. M. Deaton and E. M. Frost, Jr. of the Bureau of Mines, Amarillo, Texas, delivered a joint paper on "Field Practices with Gas Hydrates in Natural Gas Pipelines."

Opening the final general session, Thursday morning, J. C. Flanagan, United Gas Pipe Line Co., Houston, pointed out the place of the safety department in the organization setup. Mr. Flanagan contended that accident prevention work must be made an integral part of the operating procedure in order to be successful. He outlined in detail the organization which has proved effective in his company.

#### *Business Regulation*

In a forthright address entitled "Fifty Years of Regulation of Business," George E. Frazer, counsel, Association of Gas Appliance and Equipment Manufacturers, Chicago, called attention to the increasing volume and intensity of government regulations faced by the manufacturer. "We are in the full stream of governmental regulation as applied to our manufacturers and to the merchants who distribute their appliances," he declared, referring specifically to labor and cap-

ital restrictions, and price regulations.

Dr. John W. Finch, director, Bureau of Mines, Washington, D. C., in a paper prepared jointly with R. A. Cattell, chief engineer of the petroleum and natural gas division, reviewed the 17-year history of the cooperative research of the Bureau and the American Gas Association. These technical studies have produced valuable information on many problems, including pipe line leakage, gas measurement, flow through pipe lines, gagging and control of gas wells, gas hydrates, "combination" wells and other subjects.

#### *Ideal Research Set-up*

Dr. Finch described the arrangement for cooperative research between the Bureau and the Association as "ideal." "The members of the Bureau's Petroleum and Natural Gas Division assigned to the various problems can attack them with that freedom from bias, from direct financial interest, and from burdens of routine operation that is necessary to research. The members of the Association's committees, on the other hand, through their direct contact with day-to-day operating procedure, can give counsel and assistance in keeping the work directed toward practical ends; also, they are of much aid in making arrangements for necessary tests on properties of the operating companies."

An innovation which proved conspicuously successful was the management symposium held Tuesday afternoon. A feature of this meeting was the presentation by the authors of the first prize-winning papers in the na-

tional essay contest sponsored by the Natural Gas Section for company managers. First prize on the subject "The Duties of a Local Manager" was won by Clyde E. Halloren, The Gas Service Co., El Dorado, Kan. In the district manager classification, first prize went to L. D. Black, Jr., Community Natural Gas Co., Ennis, Texas. Printed copies of both winning essays were distributed to the delegates.

Other prize winners announced in the contest for local managers were: second prize, F. T. Lymburner, The Dominion Natural Gas Co., Ltd., Dunnville, Ontario; third prize, Garrett W. Craig, Public Service Co. of Colorado, Longmont, Colo.; honorable mention, J. A. Breeden, Oklahoma Natural Gas Co., Claremont, Okla.; H. A. Noble, The Gas Service Co., St. Joseph, Mo.; P. C. Gates, Oklahoma Natural Gas Co., Enid, Okla.; Harry Firstbrook, Lone Star Gas Co., Dallas; J. Murray, Consolidated Gas Utilities Corp., Tonkawa, Oklahoma.

In the district manager contest, winners in addition to Mr. Black, were: second, E. C. Ray, Peoples Natural Gas Co., Ogden, Utah; third, Marden E. Cobb, Republic Light Heat and Power Company, Dunkirk, N. Y.; honorable mention, Marion F. Peters, West Texas Gas Co., Plainview, Texas; Americo Lucci, Republic Light Heat and Power Co., Dunkirk, N. Y.; S. A. Mitchell, Community Natural Gas Co., Waxahachie, Texas; T. H. Sterling, Oklahoma Natural Gas Co., Oklahoma City; Frank E. Padden, Oklahoma Natural Gas Co., Shawnee.

Will C. Grant, advertising director, Lone Star Gas System, Dallas, urged the necessity of dramatizing gas company facts to effectively tell the company's story to the public. He gave point to his remarks by demonstrating the dramatization of the tax story.

Home service as a tool of management was the subject of an interesting talk by Jessie McQueen, home service counsellor, American Gas Association. Miss McQueen pointed out how home service helps sales, public relations, advertising, and how it aids the industry to increase its load and to hold present business.

Reliance of management on engineering assistance has increased in



recent years, according to A. W. Ambrose, Cities Service Gas Co., Bartlesville, who spoke on "Engineering Assistance to Management."

C. I. Weaver, president, The Ohio Fuel Gas Company, Columbus, delivered a stimulating address on "Sales Direction in Company Management." The entire gas industry, he declared, "has rather suddenly become sales-minded. When an industry like ours decides to go out and intensively sell its product, and the leaders of the industry are sales-minded and deter-

mined, then gas will be sold in unbelievable quantities and for unbelievable new uses."

Two conferences covering Employee Education and Accident Prevention, which were introduced this year for the first time at natural gas conventions, met with outstanding success. C. L. Hightower, director of safety, United Gas Pipe Line Company, Houston, presided at both meetings which were held Monday morning and afternoon, respectively.

cluded President Lauer, Major Alexander Forward, Gladys Price, A. G. A. home service committee chairman, Davis M. DeBard, vice-president, Stone and Webster Service Corp., and others.

## Convention Sidelights

● The Oklahoma Natural Gas Company entertained the convention visitors at a big "get-acquainted" party Monday night in the Century Room of Akdar Temple. It was a humdinger according to all reports.

● During the natural gas convention President Lauer was so frequently mistaken by local Tulsans for former President Herbert Hoover that the local newspapers remarked on the striking resemblance. According to one account, Mr. Lauer stated that the most remarkable feature of the whole thing is that Mrs. Lauer, in his estimation, resembles Mrs. Hoover more than he resembles the former president.

● In the column "Oil by Rowley" which appears regularly in the Tulsa "Tribune," the natural gas convention was described as "different." Quoting Mr. Rowley: "The annual convention of the Natural Gas Section provides all these benefits to individuals and companies represented at the meetings, but as many oil and gas men remarked in Tulsa today, 'The gas convention is different. It is the one meeting of the year which is well attended by gas men from throughout the country regardless of the distance they have to travel. California gas men come in full force, as do those from New York, Philadelphia and other eastern cities. And the natural gas centers, such as Tulsa and other points in Oklahoma, Louisiana, Texas and all through the Gulf coast are always well represented.'"

Continuing, Mr. Rowley says: "Probably no other convention can point to as many in attendance who have made history in the gas and petroleum industry but who now are enjoying the rest which a long and active career permits in retirement. While these men are no longer active in management or work with the gas companies,

they are active in affairs relating to the natural gas business and keep themselves just as well informed of the progress of the business as do the young engineers and scientists who are making this progress possible.

"They attend all the conventions and the sessions at each meeting. They give of their experience and take an active part in discussions of problems affecting the business. And they keep in direct contact with the business in their home cities through participation in meetings there and in services they render to those growing up in the business. As an example of this, Howell C. Cooper, an outstanding technical man in the whole natural gas industry, who retired recently as president of Hope Natural Gas Co., Pittsburgh, gives a lecture once a week to engineering students of the University of Pittsburgh or arranges for an outstanding speaker to give a talk at these weekly meetings. Mr. Cooper is attending the convention in Tulsa and the gathering of natural gas men would not be the same without his presence."

● The Oklahoma Natural Gas Company's All-Gas home was officially opened for inspection Tuesday of convention week and delegates and officials participated in the ceremonies. A large crowd milled into the model house after Mayor Penney of Tulsa, cut a silk ribbon across the door. They flocked immediately to such innovations as a gas radio and the gas-operated air conditioning system. "Ohs" and "ahs" were heard from women when they saw the home's compact and spotless white kitchen with its gas equipment and glass brick framework. A 15-minute broadcast was held to permit convention delegates unable to attend to hear the ceremonies. Joseph Bowes, president of the Oklahoma Natural Gas Company, officially welcomed the group. Speakers in-

● "She Knows All the Delegates" was the title of a front-page article in the Tulsa "Tribune" commenting on Miss Mary Spear's remarkable record of 22 years with the Association. Miss Spear, who was called the "best-known natural gas man in the United States," has attended every natural gas convention since she started working for the Association. At present, she is in charge of membership at Association headquarters in New York. Miss Spear was photographed with two other old-timers—C. W. Sears, of Pasadena, Calif., and Col. M. W. Walsh, of Louisville, Ky., both original organizers of the Natural Gas Association of America, which later merged with the American Gas Association.

● An unscheduled entertainment feature of the convention was given Tuesday afternoon and evening in the Tulsa Club by the Tulsa suppliers to the natural gas industry. Arthur J. Kerr, district manager in Tulsa for the Pittsburgh Equitable Meter Co., was chairman of the arrangements committee for this highly successful affair. A score of companies cooperated in the sponsorship.

● The gas industry got a real boost in an editorial headed "The Might of Gas," in the Tulsa Daily World, May 10. Here's the verdict:

"A glance at the proceedings of the American Gas Association is sufficient to give an idea of the vast use now made of the once disregarded element. Not much over fifty years ago natural gas was negligible in use; it served only for lighting. Now natural gas forms the power for a great network of industry and is used in millions of homes. The sudden removal of gas would simply paralyze the United States. It is important, therefore, to every person that this great resource be conserved and be efficiently distributed. The gas men grew from a few experimenting individuals to a great army of keen and active workers. Gas is one of those things we take for granted, and such occasions as the national gas meeting here serve to remind us of the fact that we owe much to the development of the natural gas industry. It is one among the young giants of industry in America. The men of the industry who are meeting in Tulsa this week are hopeful and alert and they set a good example for people in all lines of business."

# Natural Gas Goes Ahead . . . *Highlights of the Industry's Activities*



T. R. Weymouth

THE natural gas branch of the industry has been extremely active this year on many fronts. The operating utilities and some of the larger pipe line companies have been enthusiastic supporters of the National Advertising Program since its inception, and have been particularly active in tying in local advertising with the slogans and themes of the national campaign. As a matter of fact, the conception of the "Four Big Jobs"—cooking, water heating, refrigeration, and house heating—fits especially well into the natural gas program due to the economic feasibility of using natural gas for house heating as well as for the other three uses mentioned in the slogan. In addition to this, the natural gas branch of the industry is very active in the promotion of the sale of the CP range, as well as of all of the numerous other appliances of improved efficiency which are available today.

## *Tell the Gas Story*

There is one aspect of this activity to which I have never heard any one make reference, and yet, to my mind, one may do so with entirely becoming modesty. Every one knows that as a result of the energetic efforts of the gas industry to improve the efficiency of gas-consuming appliances, the consumption of gas per customer has been reduced to a marked degree with consequent reduction in gross revenue which passes in large proportion into reduction of net. The point I have in mind is that the

By THOMAS R. WEYMOUTH\*  
*Chairman, Natural Gas Section*

industry permits this fact to pass unnoticed by the general public. I think we should make ourselves vocal and claim full credit for our public-spirited attitude in pursuing this course. True, some will say that the industry has been driven to this attitude by competition from electricity, but this is only partially true, and particularly is it not true as applied to the natural gas branch of the industry.

## *Commodity Value of Gas*

While I am on this subject I wish to speak of another phase of publicity which I believe is sorely neglected by the natural gas industry, and which, if intelligently and persistently followed, would have a far-reaching effect not only on the public relations of the industry, but also on the possibility of securing satisfactory rates for the service rendered. What I have in mind is our failure to bring to the attention of the public the commodity value of natural gas service, and its ridiculously low cost as measured by what we spend for other things we purchase which are not nearly so necessary to the comfort and necessities of our lives. This can be done by comparing the annual total gas bill for the average family with the bill for rent, or for food, or for clothing or for the movies. The number of sticks of chewing gum equivalent to the cost of gas required to cook a whole meal for the family, or for the number of cocktails equivalent to the gas required to heat the house for a day will give the public a new perspective on the real value of natural gas service to them.

Another fact which should be brought home to the people when rates are under discussion, is the insignificant effect it would have on

the monthly bill of the average customer if a rate reduction were to be made which would be great enough to bankrupt the company. If the public can be educated to facts such as these, I believe the industry would get a better deal when its rates are in question.

Our committees have been working industriously during the last year and all deserve our commendation and thanks. One of the most important of these committee activities is that of the Accounting Committee in connection with the development of a classification of accounts. In view of the unsettled regulatory situation prevailing at the present time and of the proposals which have been made by the representatives of the regulatory bodies with respect to the proposed classification, the work being done by this committee is of heroic proportions and the outcome of their activities will be of greatest importance, particularly to the natural gas branch of the industry.

## *Industrial Study Contemplated*

Industrial gas load forms such an important part of the natural gas sendout that much thought is being given to ways and means of fostering and stimulating this portion of our business. A project is under discussion having in view the formation of an additional technical industrial committee within the Natural Gas Section, under the Technical and Research Committee, whose function will be to compile data on specific industrial problems with the object of gathering into one place the mass of technical information now available, as well as new data as it develops in the future. The work of this proposed committee would be entirely outside the scope of the present Technical Section and would apply solely to the applications of natural gas.

Chairman's Address before annual convention, Natural Gas Section, American Gas Association, Tulsa, Okla., May 8-11, 1939.  
\* Vice-President, Columbia Gas & Electric Corp., New York, N. Y.

Probably the most significant event of the last year in the affairs of the natural gas industry was the passage of the Natural Gas Act, formerly known as the Lea Bill, which went into effect on June 21, 1938. By the terms of this law all interstate natural gas pipe lines were put under the regulatory jurisdiction of the Federal Power Commission. We are now passing through a very important phase of the operation of this Act, for by the conduct of pending cases the Commission is establishing its rules and habits of procedure, and these will have an important effect upon the fortunes of all companies governed by the Act.

#### *Effect of Natural Gas Act*

This is not the place in our program for a detailed discussion of this all-important subject, but I would like to point out that the way this law is administered will have a far-reaching effect upon our industry, and it therefore behooves us to do everything possible to see that the Commission becomes fully informed of the principles upon which the natural gas industry was founded and has developed so successfully, and upon the maintenance of which our continued success depends.

This seems particularly important because of the radical tendencies of the times and the destructive legislation that is being enacted in so many states. Consequently, I feel that the duty to the industry of every company when it becomes involved in litigation before the Commission, demands that it so frame its case as to seek to establish basic fundamental principles even though the immediate problem might be solved by a simpler compromise.

It must not be forgotten that up to the time of the passage of this Act, the Power Commission was called upon to deal solely with electrical utilities, and consequently it is to be presumed that natural gas problems, especially those relating to leaseholds and production, are entirely new to it. So, it is our duty to try and see that the Commission gets off on the right foot in dealing with such problems.

It appears from releases so far put out by the Commission that it intends to assume jurisdiction over a

very broad field of activities, extending not only to production aspects of the business, but as well to questions concerning a common carrier status of natural gas pipe lines. From the number of cases that have already been instituted we will probably not be kept long in suspense as to just what may be expected as the results of the operation of this Act.

#### *Air-Conditioning Developments*

One of the very encouraging features of the activities of the industry during the last year, is the substantial development which is taking place in air-conditioning by means of gas. It is now possible to obtain a complete unit for furnishing automatic control of humidity and temperature at a cost well within the means of the average householder who is able to afford a central heating plant. It seems to me to be impossible to estimate the value of this advance, for it furnishes the means of supplying a service quite complementary to house heating, from a seasonal standpoint, thereby not only improving the load factor of the existing house heating business, but also making it possible to add more house heating business on a profitable basis.

In order to increase the field of potential business of this nature during the period which probably must elapse before the public is ready to accept air-conditioning in the home, the sales forces of the industry should be working diligently to induce owners and builders to install heating plants which are adaptable to the later addition of air-conditioning equipment, if not installed when the original home is built.

Another interesting and encouraging development is the progress which is being made in the invention of methods of converting natural gas as a raw material into articles of every day use. Those of you who attended the Atlantic City Convention last October and heard the most interesting talk of Dr. Weidlein of the Mellon Institute, will recall the samples he displayed of a substitute for silk which is finer and better than silk itself, and which was manufactured principally from natural gas as the basic raw material. You may also have read in the papers of the

method which has recently been reported for manufacturing explosives from natural gas, air and water, at a cost less than that of existing processes, and with a superior ultimate product.

Practically all of these things, with many others, are the result of scientific research, and demonstrate the possibilities that open up to an industry which pursues an intelligent and active research program. Our branch of the industry has heretofore proven the value of research in other ways,—as witness the excellent results of the work of our Technical and Research Committee in the various activities it has undertaken,—but I am convinced that we have only scratched the surface and should extend our activities in this direction to a marked degree. The state of the motor industry today and the recent rapid advances of the petroleum industry are excellent examples of the soundness of this suggestion.

#### *Convention Program*

Our program for this convention has been designed to cover those phases of the industry which are demanding the greatest attention at the greatest time. We have many eminent speakers, not only from within the industry but also from without, and I hope that those who attend the meetings will derive much profit and pleasure from them.

I wish to extend to the various committees who are doing such excellent work, the thanks of the entire industry for the fine contributions they are making to the industry's progress. I also wish to say a word of appreciation to the members of the headquarters staff who have demonstrated such a fine spirit of cooperation and helpfulness in taking us to their bosom when we moved in on them in New York. But, especially would I like to express my thanks to Mr. Poe for his untiring and successful efforts to develop an interesting program for you, and for his willingness to relieve the Chairman of all duties except those which the Chairman alone can perform.

As for many years past, it is gratifying to report to you that the Natural Gas Section still enjoys the cordial and helpful cooperation of those wonderful departments of the National Government—the Bureau



of Mines and the Bureau of Standards. The dignity and authority of much of the work done by our Association is greatly enhanced by this happy relationship.

One final word about the place natural gas will occupy at the New York World's Fair. In the Gas Industries Building we will have a booth twenty-two feet long by nineteen feet deep, on the back wall of which will appear a large animated transparency map of the pipe line systems of the United States. One end of the booth will be covered by an accurate diagrammatic drawing of a typical natural gas system from the gas sand to the ultimate consumer's appliances, showing all of the major features required to secure and deliver natural gas. Supplementing this drawing will be transparencies of photographs of the

various elements of the system. There will be transparencies of printed questions designed to bring out descriptions of the major facts connected with the business which will be of interest to the average consumer, the answers to which will become visible when the visitor presses an electric button.

A six-foot scale working model of a drilling derrick with complete complement of drilling and fishing tools will be on display and will be operated by a small electric motor. There will be chairs and settees about the booth so that this may become a rendezvous for natural gas visitors to the Fair. The exhibit as a whole will be simple but dignified, as befits the great industry it represents. I sincerely hope you will all take occasion to visit it when you come to the Fair.

## Looks at Gas Industry Record and Finds It Good



Conrad N. Lauer

**F**OLLOWING Al Smith's famous tactics, Conrad N. Lauer, president, American Gas Association and president, The Philadelphia Gas Works Co., speaking at the Natural Gas Section convention in Tulsa, Okla., said "Let's take a look at the record of our industry and see how

we are doing." Here are a few of the things he found which bore out his conviction that the gas industry is doing a good job:

"The gas bills (manufactured and natural) of the homes of the country amounted to \$536,212,100 for the year 1938, which was .8% of the National Income. The cost of government is stated at \$12,200,000,000 or 17.2% of the National Income for 1938. If the cost of government were reduced 4.4% it would be equivalent to a saving equal to the total gas bills of the nation. These figures should convince anyone that the cost of gas service is reasonable.

"Another interesting comparison makes this fact even more impressive. The number of automobiles in the country about parallels the number of homes using utility service. We can, therefore, assume that like gas service they are necessary for the welfare, comfort and convenience of the people. A great many people have been led to think that gas bills are too high.

If that be true, what about the gasoline taxes paid by the same people? The direct tax they paid on gasoline in 1938 exceeded by \$431,000,000 the gas service bills for all the homes in the nation.

"The average amount of tax per family on gasoline was \$32.23 in 1938 while the average gas bill for domestic or residential gas was \$33.32 in the nation and \$36.60 in the State of Oklahoma. And in that gas bill were taxes amounting to approximately 11% of the total. The fact is that using five to a family as a basis, national statistics indicate that the average amount of taxes, of all kinds, paid by the same family is about 20 times the average residential gas bill for the same family.

"But let us look a little deeper into the comparative value of the fuel that you are most interested in—Natural Gas. If a buyer were in the market last year for a million British thermal units of energy he could purchase them in the form of natural gas for 35¢, in the form of manufactured gas for \$1.90 and in the form of electrical energy for \$6.82.

"Of course, it must be considered that electricity is consumed primarily for electrical power and small appliance heating while gas is used almost entirely for the performance of major domestic, commercial and industrial heating purposes. While there is some overlapping in the service fields of these products little has existed in their fields of major service.

"Let me suggest that these comparisons show how we are 'doing' by our customers. I would say that our industry gives, 'Fuel Value Received.'"

## W. P. Hutchinson Dies, Sprague Meter Head

**W**ILLIAM P. HUTCHINSON, president and general manager of the Sprague Meter Company, Bridgeport, Conn., died May 21 in the Bridgeport Hospital. He was 56 years of age.

Mr. Hutchinson, who was born in Marion, Iowa, in 1883, had been associated with the Sprague Meter Company since 1910. He started as a salesman and advanced rapidly, becoming a vice-president a few years later. When Henry H. Sprague, inventor of the gas meter, retired, Mr. Hutchinson became president. He was active in civic and fraternal affairs.

A strong supporter of the gas industry associations, Mr. Hutchinson was a constant attendant at national and state meetings. He held important committee posts in the American Gas Association and was prominent in affairs of the Association of Gas Appliance and Equipment Manufacturers. He served on the A. G. A. Approval Requirements Subcommittee on Listing Requirements for Gas, Pressure, and Temperature Control Accessories from 1932 to 1936, acting as chairman during the latter three years. He was a member of the Subcommittee on Standardization of A. G. A. Approval Requirements from 1932 to 1935.

In addition to these activities, he served in 1931 and 1932 on the Advisory Committee on Manufacturers Statistics, and in 1935 on the Exhibition Committee of the Manufacturers' Section. He was also an associate member of the A. G. A. Subcommittee on Meters in 1933. More recently, he has been active in A.G.A.E.M. affairs.

## Gas Appliance Sales Rise Sharply

**A** SUBSTANTIAL increase in the production and shipments of gas appliances during the first quarter of this year as compared with the same period of 1938 has been reported by the manufacturers of the gas appliance industry.

Data compiled by the Association of Gas Appliance and Equipment Manufacturers disclose that with the turn of the year there has been a marked upward change.

Manufacturers of gas-fired water heaters reported an increase in shipments of 31.6 per cent during the first quarter of 1939 as compared with the same interval of the preceding year.

Production of gas ranges increased 55.5 per cent during the first quarter of this year as compared with last year's figures, while gas range sales increased 35.1 per cent during the period.

Sales of gas-fired furnaces increased 143.8 per cent; conversion burners 174.1 per cent and gas-fired boilers increased 7.2 per cent during the first quarter.



# The Water Heating Load ... Its Value and How It May Be Secured

## PART I

**D**URING the past, some of us in the gas industry have had rather vague and haphazard ideas of the value of the water heating load. In general, we have thought of an automatic water heater using so many M cu.ft. of gas per month at such and such an increment figure. Detailed and reasonably accurate analyses seemingly have been the exception rather than the rule.

At the outset, in attempting to evaluate the water heating load, we find ourselves confronted with several highly variable factors, all of which have an important bearing upon our final analysis and not one of which is likely to be the same in some other locality. The analysis which we are setting forth herein, therefore, covers our own particular conditions as we find them in Tucson, Arizona, a southwestern community of approximately 50,000 population which changed from manufactured oil gas to natural gas in the early part of 1934. As is true with other southwestern communities, having manufactured oil gas, the average annual domestic consumption was considerably below the national average.

Some of the important factors having a pertinent bearing upon the evaluation of the water heating load are as follows:

1. Structure of the generally applicable domestic rate and its relation to the water heating increment.
2. Vagaries of the weather or seasonal variations which are directly reflected in our respective degree day deficiencies.

Upon making a substantial reduction in our general gas rate, effective as of April 1, 1938, which is applicable to all domestic gas service, considerable thought and attention were given to formulating the respective increments of usage and we finally arrived at the following simple block rate:



William H. Howe

Third prize of \$150 was granted to E. W. Vick, New York State Electric & Gas Corp., Cortland, W. Daniel Williams, Public Service Electric and Gas Corp., Paterson, N. J., won fourth prize of \$100. Four honorable mentions were awarded as follows: William H. Bispham, Rockland Gas Co., Inc., Spring Valley, N. Y.; W. S. Keenan, Houston Natural Gas Co., Houston, Texas; J. F. Kelly, Public Service Electric & Gas Co., Newark, N. J., and E. I. Rudd, Jr., Connecticut Power Co., Stamford.

Judges for the contest were: Floyd Parsons, *Gas Age*; A. I. Phillips, *American Gas Journal*; Stanley Jenks, *Gas*; J. B. Read, Columbia Gas & Electric Corp.; John W. Clark, chairman, Water Heating Committee, and C. D. Byrd, A. G. A. E. M.

In addition to this essay contest the 1939 promotional campaign includes a similar contest open to plumber dealers who handle gas water heaters. Results of this contest appear elsewhere in this issue.

Due to space limitations, Mr. Howe's paper has been divided into two parts. The second part will appear in the July-August issue of the MONTHLY.

## By WILLIAM H. HOWE

*Commercial Manager, The Tucson Gas, Electric Light & Power Co., Tucson, Ariz.*

### General Gas Rate

First 10 therms per month @ 22¢ per therm  
Next 20 therms per month @ 15¢ per therm  
Over 30 therms per month @ 6¢ per therm  
Minimum: \$1.00 per month

In setting up the foregoing rate, we were proceeding upon the theory, backed by general experience rather than specific working data, that the average home would use 10 therms per month for cooking and incidental water heating and 30 therms per month for cooking and automatic water heating. Just how accurate our estimates in this connection were will be shown in our subsequent analyses.

Prior to the change-over to natural

gas in the early part of 1934, a detailed survey of our gas system showed we were serving about 800 automatic water heaters or, roughly, a saturation of only 19%. The remainder of our domestic gas consumers were heating water with a teakettle, a side arm heater, or a combination tank water heater. In the latter part of 1938 another survey shows a saturation of 48% on automatic water heaters, an increase of about 29 points in saturation.

### Summer Water Heating Increment

In order to gain some idea of the increment gas load created by an automatic water heater over other forms, we have taken statistics on the summer gas load for the years of 1931 through 1938, inclusive. Domestic gas consumption through the summer months was taken purposely to eliminate the

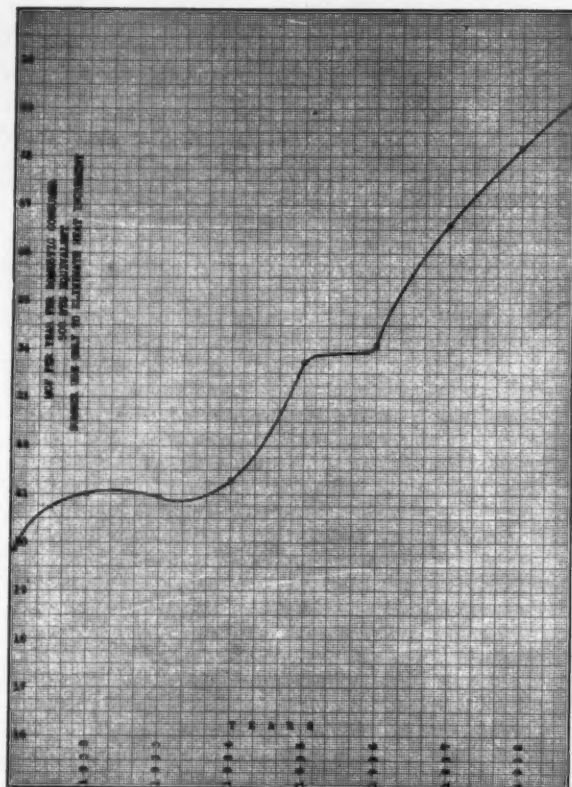


Figure 1. Chart showing rise in gas consumption per domestic customer per year from 1931 to 1938. Summer use only is shown to eliminate the heat increment

winter heating increment. Since we have knowledge of three factors, (total summer domestic gas sales, number of consumers, and number of automatic water heaters) it is a comparatively simple matter to calculate the increment of gas load created by the automatic water heater over and above other forms of water heating. These calculations indicate an increment of 10.56 therms per month, during the summer, for the average automatic water heater over other forms of water heating. Previous sales figures show beyond any reasonable doubt that the percentage of gas refrigerators probably does not exceed 1% or 2% saturation and this factor, therefore, becomes negligible in our calculations.

Previous actual experience showed the summer increment of gas for cooking and a tank water heater to be 4 therms per month. After installing an automatic water heater in the place of the tank water heater, the summer months' gas consumption jumped to 14 therms per month consistently, indicating an increase of 10 therms per month in favor of the automatic water

heater. Obviously, this may or may not have been a typical or average installation. However, after reviewing our calculations for all automatic water heaters on our system and considering our personal experience with respect to the summer water heating load, we come to this conclusion:

Specifically for Tucson, Arizona, experience indicates, and mathematics verifies, the average summer heating load for cooking and manual water heating to be

TABLE I—TABULATION OF SUMMER DOMESTIC GAS CONSUMPTION

Year	M Cu.Ft. Domestic†	Average Number Consumers	M Cu.Ft. Per Consumer Per Year†
1931	29,617	4,475	19.85
1932	30,905	4,410	21.02
1933	28,680	4,108	20.94
1934*	31,734	4,474	21.28
1935	37,460	4,739	23.72
1936	40,498	5,042	24.10
1937	48,762	5,496	26.62
1938	58,930	6,275	28.18

† 500 B.t.u. per cu.ft. equivalent for 4 summer months of June, July, August, and September, only, to eliminate winter heating increment.

\* Changed from 500 B.t.u. oil gas to 1,000 B.t.u. natural gas in January 1934.

6.67 therms per month and for cooking and automatic water heating to be 17.23 therms per month, a difference of 10.56 therms per month in favor of the automatic water.

Just what part the cooking load amounts to we are unable to determine, but we would estimate 3 therms per month.

## VOLUME OF THE WINTER WATER HEATING LOAD

### Winter Water Heating Increment

The determination of the winter water heating increment is quite another set of conditions, for here we have the space heating increment entering our analyses. Taking the case of the writer, we have specific data for two years of cooking, tank water heater, and space heating, together with two years of data under identically the same conditions in the same house but with an automatic water heater in place of the tank water heater. Plotting the respective monthly gas consumptions against known degree day deficiencies, we obtain two curves showing very definitely and decidedly a healthy increase in gas consumption after the automatic water heater replaced the tank heater. These curves and their respective points of determination are shown in Figure 2.

Theoretically, these curves should be straight lines and we attribute the curved portions of the lower ends to the use of a 65° base rather than 68°. Experience in this locality indicates that heating is required when the mean daily temperature falls below 68° rather than the usual 65°, which is the commonly accepted figure. Due to the very low relative humidity conditions prevailing in this southwestern desert region, a higher dry bulb temperature is required to attain a given effective temperature.

Knowing the normal degree day deficiencies for the respective months of the year, we have taken values from these curves to determine the average water heating increments as shown in Table II. While our calculations indicate a summer usage of 6.67 therms per month for cooking and manual water heating, there is no way of determining what each may have amounted to. We have, therefore, arbitrarily allocated 3 therms per month for cooking and 4 therms per month

TABLE II—ESTIMATE OF ADDITIONAL  
USE OF GAS  
Automatic Water Heater Compared to  
Manual Heater  
(From curves in Figure 2)

Month	Normal Degree Days*	Therms Range, Auto. W.H. & F.P. Htr.	Therms Range, Tank W.H. & F.P. Htr.	Therms Dif- ferences
Jan.	515	158	128	30
Feb.	323	110	85	25
Mar.	238	88	66	22
Apr.	78	46	30	16
May	20	26	13	13
June	0	14	4	10
July	0	14	4	10
Aug.	0	14	4	10
Sept.	0	14	4	10
Oct.	31	31	17	14
Nov.	245	90	68	22
Dec.	435	138	110	28
Totals 1885		743	533	210

\* 65 Deg. F. Base  
10 Yr. Average of 1928-38

for manual water heating during the summer months. Since the mean daily temperature in the peak of the summer season is very close to 90° and drops to about 50° in the middle of the winter season, we have increased the peak winter increments to 6 therms and 9 therms per month for cooking and manual water heating, respectively.

Table III shows in detail our estimate of the respective increments for cooking, manual water heating, and automatic water heating through the twelve months of the year. Summarizing, briefly, we find this analysis indicates the following pertinent data:

Appliance	Therms/Year	Increment Gross Rev./Year
Range	50	\$11.00
Manual Water Heater	71	14.50
Auto. Water Heater	281	43.18

It is obvious and otherwise apparent that every home using gas for cooking will use gas for heating water in one form or another and a superficial inspection of the foregoing data indicates an automatic water heater will use approximately four times the amount of fuel and produce about three times the amount of gross revenue that a manual water heating job will do. Herein lies the proof that an automatic water heater educates the public to the use and value of hot water service. We have yet to meet the person who would willingly change from an automatic water heater to

other forms of water heating. (See Table III.)

#### Value of the Water Heating Load

Since it is apparent the average home, not now using an automatic water heater, would spend \$14.50 per year for heating water in one form or another, the incremental value of the automatic water heater is, therefore, the difference in gross revenues, or \$28.68 per year.

The additional net revenue of the automatic water heater is determined as follows:

Gross Revenue Auto. W.H.	\$43.18
Gross Revenue Tank	14.50
Difference	\$28.68 \$28.68
Cost of Gas—Auto. W.H.	
281 Therms @ 4¢	\$11.24
Cost of Gas—Tank W.H.	
71 Therms @ 4¢	\$ 2.84
210 Therms @ 4¢	\$ 8.40

TABLE III—ESTIMATE OF INCREMENT GROSS REVENUES

Month	Est. Therms Cooking	Est. Therms Tank W.H.	Addi. Therms Auto. W.H.	Total Therms Auto. W.H.	Increment Revenue Cooking	Increment Revenue Tank W.H.	Increment Revenue Auto. W.H.
January	6	9	30	39	\$ 1.32	\$ 1.63	\$ 4.78
February	5	8	25	33	1.10	1.55	4.58
March	5	7	22	29	1.10	1.40	4.34
April	4	6	16	22	0.88	1.32	3.72
May	3	5	13	18	0.66	1.10	3.19
June	3	4	10	14	0.66	0.88	2.59
July	3	4	10	14	0.66	0.88	2.59
August	3	4	10	14	0.66	0.88	2.59
September	3	4	10	14	0.66	0.88	2.59
October	4	5	14	19	0.88	1.10	3.27
November	5	7	22	29	1.10	1.40	4.34
December	6	8	28	36	1.32	1.48	4.60
Totals	50	71	210	281	\$11.00	\$14.50	\$43.18
Average	4	6	17.5	23.4	\$ .92	\$ 1.21	\$ 3.60

#### General Gas Rate

First 10 therms per month @ 22¢ per therm      Over 30 therms per month @ 6¢ per therm  
Next 20 therms per month @ 15¢ per therm      Minimum: \$1.00 per meter per month.

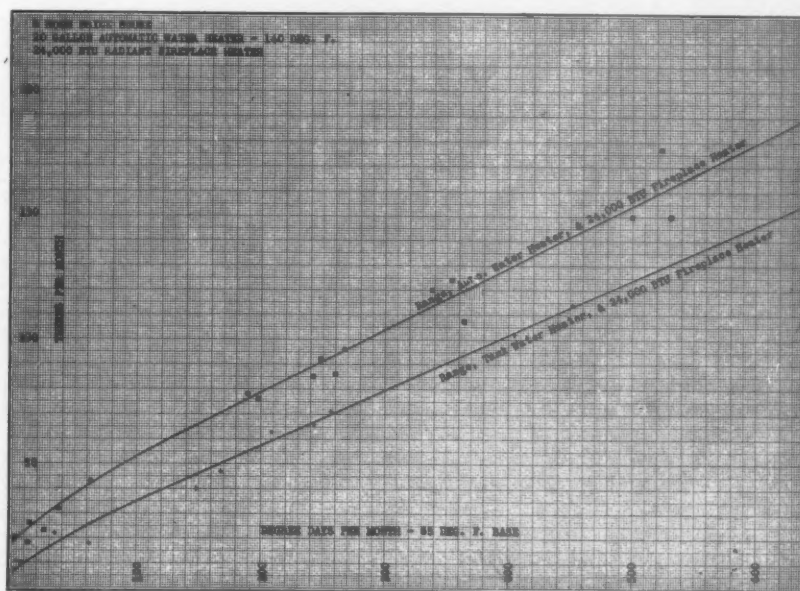
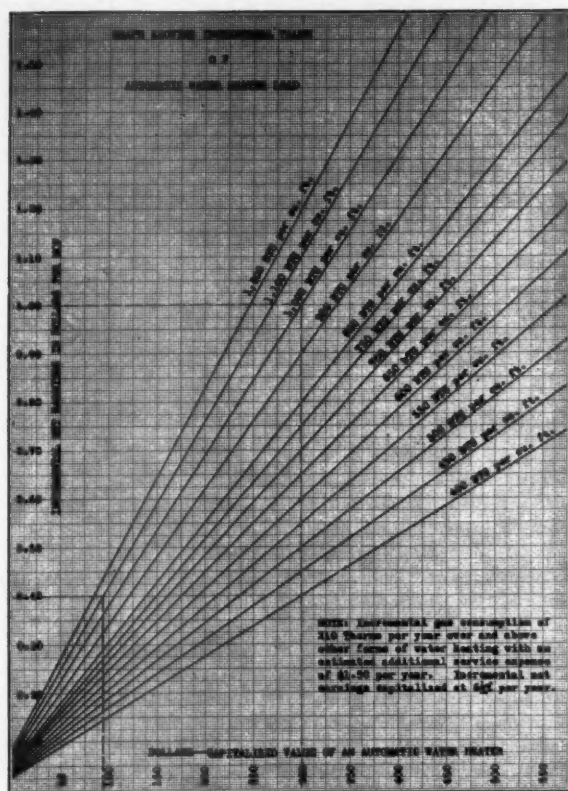


Figure 2. Curves showing increase in gas consumption after automatic water heater replaced tank heater





1 Service Call per year  
for Auto. W.H. @ \$1.50 \$ 1.50

Esti. Addit. Cost to Serve	\$ 9.90	\$ 9.90
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**ADDITIONAL NET REVENUE \$18.78**

In the foregoing analysis, we have assumed the automatic water heater to be a purely incremental load, aside from one additional service call per year, which is not without the realm of reason. In this state, the Arizona Corporation Commission considers a fair return to be 6½% on invested capital for utilities. Now, if we capitalize this additional net revenue of \$18.78 per year at the rate of 6½% per annum we find the value of the automatic water heater as follows:

\$18.78 or \$289  
.065

It should be borne in mind the foregoing figure is the value of the automatic water heater load over and above other forms of water heating and the true and full value of the automatic water heater would be greater than this figure.

Gross Revenue Auto. W.H.	\$43.18	\$43.18
Cost of Gas—281 Therms		

1 Service Call @ \$1.50	1.50
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Cost of Serving	12.74	\$12.74
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NET REVENUE	\$30.44
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Gross Revenue Tank W.H.	\$14.50	\$14.50
Cost of Gas—71 Therms		

NET REVENUE	\$11.66	\$11.66
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Capitalizing these respective net revenues at  $6\frac{1}{2}\%$ , we obtain the following:

Tank Water Heater:  $\frac{\$11.66}{.065}$  or \$179

Auto. Water Heater:  $\frac{\$30.44}{.065}$  or \$468

The foregoing study of the volume and value of the water heating load covers the specific conditions as we find them in our particular locality with respect to saturation of automatic water heaters, the structure of the generally applicable rate with reference to the water heating increment, and the average use of hot water in the home. Conditions in other localities may be expected to vary widely with relation to

the three variable factors enumerated above and the determination of the value of the water heating load, particularly the automatic water heater, requires, therefore, a detailed analysis of these three variables.

In Table III we have shown the annual consumption of side arm and other forms of manual water heaters at 71 therms with 281 therms for an automatic water heater, a difference of 210 therms per year in favor of the automatic water heater. Additional service expense of the automatic water heater has been estimated at \$1.50 per year, which is probably high.

Now, if incremental sales were at 65¢ per M cu.ft. for 1,100 B.t.u. gas costing, let us say, 30¢ per M cu.ft. with net earnings of 35¢ per M cu.ft., we find the net revenue for an increment of 210 therms to be \$6.68 less \$1.50 estimated for service expense or \$5.18 per year which, when capitalized at 6½% per year, gives us a value of \$79.69. If the cost of gas is only 20¢ per M cu.ft., we have incremental earnings of 45¢ per M cu.ft. and, similarly, we find the capitalized value of the automatic water heater to be \$109.09.

Figure 3 shows a graph giving the capitalized value of the automatic water heating load based upon an incremental gas consumption of 210 therms per year over and above other forms of water heating and an estimated additional annual service expense of \$1.50 per year for various incremental net earnings per M cu.ft. and various B.t.u. gas contents which we believe is self-explanatory. For other increments of usage above or below 210 therms per year or other rates of capitalization, the value of the automatic water heater varies accordingly.

From the foregoing analysis, we have gained some idea of the value of the water heating load, particularly the automatic water heater, which may appear to be somewhat startling, and yet, here is a purely incremental load with the highly desirable qualities of modest demand and relatively high load factor of which many of us in the gas industry may never have had a true perspective—particularly its relation to an integrated load-building program.

(EDITOR'S NOTE—The next issue of the MONTHLY will carry the second part of this paper, in which the author explains how the water heating load may be secured.)



# Court and Commission Decisions Affecting Natural Gas Industry



Wm. A. Dougherty

**C**OURT and commission decisions impinge upon the operations of the natural gas industry at so many points it is difficult to sort and segregate them to a limited approach. Possibly those decisions

that have an immediate and direct affect on the treasury are the ones that result in sleepless nights for the management, so to that group I will limit my discussion.

This being a general meeting and not one of lawyers, I will do my best to avoid a legalistic discussion and will leave aside all questions except those that indicate some new or different or unusual application.

## Importance of Regulation

Rate regulation has continued to be of increasing importance to the natural gas industry. New and flush production make for cheap gas, but it is well understood in the industry that the cost of producing gas increases as fields become older. Unless new sources are available the gas company must charge more or earn less. No wonder then that rate controversies have arisen in large volume during the past decade.

Last year when the Natural Gas Section met at New Orleans there had not yet been passed the pending Lea Bill regulating the transportation and sale in interstate commerce of natural gas. A few weeks thereafter the bill had become a law.<sup>1</sup> The Federal Power Commission promptly got into action, and on July 5, 1938, issued three orders. Order No. 51 instituted an investigation by a questionnaire to determine what companies and persons were natural gas companies subject to

<sup>1</sup>Address before annual convention, Natural Gas Section, American Gas Association, Tulsa, Okla., May 8-11, 1939.

By WM. A. DOUGHERTY  
*Counsel, Standard Oil Company of  
New Jersey, New York, N. Y.*

the Act; Order No. 52 established provisional rules and regulations; and Order No. 53 required the filing of schedules by all natural gas companies, showing all rates and charges for any transportation or sale of natural gas in interstate commerce.

## New Regulatory Field

Thus began a new field of regulation and one which will be far-reaching in its effects. The law defines a natural gas company as any person or corporation "engaged in the transportation of natural gas in interstate commerce, or the sale in interstate commerce of such gas for resale."<sup>2</sup> No attempt is made to limit the application of the law to companies which generally are known as public utility companies, and that phrase is not used at any place in the law. The FPC interprets its mandate from Congress as including every sale of natural gas for resale if the gas eventually moves into interstate commerce. While no decision of the Commission has been rendered on the question, requests for the filing of contracts have gone to many producers of natural gas who own no pipe lines but who sell gas only in the producing field. Although the law provides that it shall not apply to the production or gathering of natural gas, a sale by a producer to a natural gas company which sells the gas in another state is considered by the Commission as being within its jurisdiction.

Many producing companies which have been considered to be private enterprises are being requested to file their contracts of sale. If this broad jurisdiction is upheld and the right to fix the rates of all gas which is to move or has moved in interstate commerce is sustained, the business of

producing and selling natural gas as a private enterprise is ended. No longer could an individual drill a well and sell the product to an interstate pipe line at a price negotiated between the parties. The price would be fixed in Washington. You can readily see that the importance of the regulation now being entered upon by the FPC cannot be overemphasized.

The first public body to take advantage of this new law was the City of Cleveland. On July 6, 1938, there was filed with the FPC a petition asking for an investigation into the rate charged for natural gas which the Hope Natural Gas Company, operating in West Virginia, sells to The East Ohio Gas Company, operating in Ohio. This was followed very shortly by a complaint of the City of Akron against the same company, and the Commission later instituted a general investigation into all rates charged by Hope Natural Gas Company in the sale of gas for resale.

## Pending Cases

In addition to this case, there are now pending before the FPC these rate proceedings:

A complaint was filed by the Illinois Commerce Commission against Natural Gas Pipeline Company of America, and later the FPC initiated what it termed a "sweeping investigation" of the company's rates.

The New York Public Service Commission filed a complaint against New York State Natural Gas Corporation respecting the rate charged the distributing company at Syracuse, New York. Later the FPC initiated an investigation into all of the rates of this company.

A complaint was filed by the City of Denver against Colorado Interstate Gas Company and Canadian River Gas Company respecting the rate charged the distributing company at Denver. Shortly thereafter the Wyoming Public Service Commission filed a com-

plaint against the Colorado-Wyoming Gas Company respecting the rate charged the distributing company at Cheyenne. Subsequently the FPC initiated a general investigation into all the rates of all three companies and consolidated all of the proceedings.

The rate charged by Arkansas Louisiana Gas Company for gas sold to Camden Gas Corporation at Camden, Arkansas, was protested by the distributing company and an increase in the rate provided for by the contract in effect before the Lea Bill became a law was suspended by the FPC.

The Pennsylvania Public Utilities Commission filed a complaint against the rates of Pittsburgh & West Virginia Gas Company for gas sold to The Equitable Gas Company at Pittsburgh.

An investigation was initiated by the Commission into certain rates charged by Interstate Natural Gas Company, Incorporated to distributing companies in Louisiana.

Two proceedings involving rates charged for transporting gas are pending, one being an investigation by the Commission of the rates charged by Manufacturers Light & Heat Company for transporting gas from West Virginia into Maryland for delivery to the Cumberland and Allegheny Gas Company. The second proceeding was initiated by a complaint filed by certain producers in Montana, against the rate charged by Montana-Dakota Utilities Company for transporting gas from Montana to the Dakotas.

This is the business which has been brought to and initiated by the FPC in less than one year since the law was passed. Some hearings have been held in these matters, but as yet no case has been presented to the Commission which would indicate its attitude in determining rates.

#### *Law Not Specific*

The law is general in its specifications of things to be considered by the Commission in arriving at a rate. Language similar to that used in the Interstate Commerce Act provides that rates charged shall be reasonable, and any unjust, unreasonable and unduly discriminatory or preferential rates are prohibited. The only direction with respect to the determination of the value of property in fixing rates is that contained in Section 6, which uses the

phrase "actual legitimate cost," and then refers to other facts which bear on the determination of the fair value of the property of the natural gas company. From action taken by the FPC in valuation cases pending before the United States Supreme Court we know that its desire is to abandon the valuation method in use for so many years, which requires that rates be fixed on the value of the property devoted to public service at the time of the inquiry. In substitution for this long established rule, original cost is proposed under different labels.

#### *FPC Favors Original Cost*

The FPC has authorized its counsel to appear and argue this question in a number of rate cases. In 1937 it urged upon the Supreme Court the adoption of the original cost or prudent investment theory in a case involving the Pacific Gas & Electric Company. The California Commission had rejected the evidence of reproduction cost and had based its decision entirely on historical cost. The court gave the cost proponents some encouragement by holding that the methods used by a state commission were not important so long as the end arrived at was a nonconfiscatory rate. Under this rule a commission is not bound in all instances to give consideration to reproduction cost. Doubtless it was thought that as the court became more streamlined with new appointments, the final blow to the fair value principal would soon fall. However, the last attempt to encourage the United States Supreme Court to change this rule of value has again failed.

The case of *Driscoll v. Edison Light & Power Company*,<sup>4</sup> decided by the court on April 17th, involved a temporary rate fixed by the Pennsylvania Commission under a State law. The FPC filed a brief and urged that the court abandon the formula fixed in the case of *Smyth v. Ames*.<sup>5</sup> The court again refused to do so, and reproduction cost was considered and used as a part of the evidence in arriving at the value of the property. Mr. Justice Frankfurter, while concurring in the judgment, said that the court's opinion "appears to give new vitality needlessly to the mischievous formula for fixing utility rates in *Smyth v. Ames*, 169 U. S. 466." Since only

Mr. Justice Black concurred in the opinion read by Mr. Justice Frankfurter, I think it is fair to assume that the effort of the FPC to have the court abandon the consideration of the reproduction cost of property still is unsuccessful.

There have been other matters brought before the FPC under the Lea Bill, such as a number of applications for the purpose of exporting gas from Texas to Mexico and from New York State to Canada, and one application to import gas from Canada to Montana.

The law contains a provision requiring a certificate of public convenience and necessity for the construction of a natural gas pipe line into a market already served by an existing natural gas company.<sup>6</sup> There have been five applications of this character filed. The first one was that of Kansas Pipe Line & Gas Company, which proposes to construct a pipe line from the Hugoton field in southwestern Kansas to the Mesaba Iron Range in Minnesota, with branch and lateral lines to points in the states through which the line will pass. This application has caused considerable interest by reason of the fact that the National Bituminous Coal Commission, the National Coal Association and many retail coal associations and individual dealers, the United Mine Workers of America and the Railway Labor Executives Association, all filed applications to intervene. The applicant had requested the Commission to enter an order holding that it had no jurisdiction over the proposed construction, on the ground that natural gas was not being sold in the markets which it proposed to serve. This contention was overruled, but at the same time the Commission held that the coal industry had no right to participate under the statute and denied the applications to intervene. Hearings on the merits have recently been finished.

Applications to construct lines into the same general territory have also been filed by North Dakota Consumers Gas Company, which proposes to serve a number of communities in North Dakota and Minnesota, and Public Service Gas Company, which proposes the construction of a line from Montana and Wyoming through North Dakota, South Dakota and into Wisconsin. Each of the three companies

involved in these applications have been permitted to intervene in each other's case.

There was filed by Louisiana-Nevada Transit Company an application to build a pipe line from the Cotton Valley field in Webster Parish, Louisiana, to a cement plant in Howard County, Arkansas, it being intended to serve any distributing companies that desired to buy along the way. Hearings have been completed on this proposal but no decision has yet been rendered. The Arkansas Louisiana Gas Company strenuously opposed it.

The General Gas Pipe Line Corporation filed an application to construct a line from Kentucky to certain areas in Indiana. Hearings began on this application in April, and when the applicant found that it would be necessary to give full information concerning the gas reserves, available markets and methods of financing, the application was withdrawn.

From what I have said concerning the activities of the FPC, it can be seen that there will come about decisions of far-reaching effect on the gas business. The prevalence of interstate movements in natural gas gives an importance to these matters that will focus attention on the FPC to the exclusion of state commission cases for some time. This is not because of the lesser importance of the decisions of the state commissions but because of the newness of the field.

#### *State Regulation*

State commissions have continued in their activities, but since their decisions generally get before the courts there need be no separation in discussion of the two jurisdictions. The State of Texas has been busy in the last few years in rate activities, and two rate cases found their way into the United States Supreme Court. The United Gas Public Service Company in its case involving rates for Laredo<sup>7</sup> brought to the Supreme Court the question of the legality of the unusual rate case procedure which applies in Texas, namely, the trial to a jury of the appeal from the Railroad Commission's orders. Knowing the voluminous statistical information and many exhibits that are utilized in rate case testimony, it does not seem strange that the contention would be made that complicated issues, such as abound in a rate case

embracing conflicting testimony of experts and many details in appraisals and operating problems, should be given a judicial review and are too involved to submit to a jury trial.

The court recognized the difficult problem, but pointed out that many cases involving complicated questions of expert testimony and voluminous records are presented in criminal cases where many times the issue of life or death is decided. Accordingly the court held that it was an appropriate method of trying a rate case.

#### *Lone Star Wins Case*

The second Texas case which found its way to the United States Supreme Court last year was that of the Lone Star Gas Company involving gate rates charged to its affiliated distributing companies in Texas.<sup>8</sup> This case also was tried to a jury, following the decision of the Railroad Commission of Texas, and it resulted in a verdict by the jury in favor of the company. It seems almost a miracle that a jury of consumers would actually decide that the gate rate of 32¢ fixed by the Railroad Commission was too low, but such did happen. In that case the Supreme Court decided that the transportation of gas from the Texas Panhandle through Oklahoma and back into Texas and the sale of that gas to affiliated companies, even though considered to be an interstate movement, was not an interference with interstate commerce. The inclusion of producing property in Oklahoma in the valuation was approved, the Court holding that segregation of that within and that without Texas was unnecessary.

The Arkansas Louisiana Gas Company was involved in a third case in Texas, which though not a rate case did affect the company's rates. The United States Supreme Court held that the City of Texarkana, Texas, could take advantage of a provision in the company's franchise, providing that any lower rate placed in effect in Texarkana, Arkansas, should likewise apply in Texarkana, Texas.<sup>9</sup> The Circuit Court of Appeals had taken the view that under the Texas law a municipality could not contract away its legislative right to regulate utility rates and that such a franchise, not being binding on the City, likewise would not bind the company. This finding, while

appearing to be reasonable and fair to both sides, was held to be wrong by the Supreme Court. Even though the City could not contract away its right to raise rates, such a franchise was held binding on the utility, and the consideration for this is said to exist in the grant of the franchise. The result, however, is a rule that does not work both ways.

Moving from Texas to the State of Michigan, where Texas gas is sold by one of the long distance pipe lines, the Michigan Public Utilities Commission recently held that it had jurisdiction over the rates in effect in Detroit. The basis of the decision was that no specific schedule of rates was set forth in the contract between the City of Detroit and the Detroit City Gas Company, under which the price of gas sold in Detroit is determined. This agreement, known as the "Detroit Plan," was widely discussed at the time it was made, and seemed to provide a method whereby a fair earning could be made available to the gas company, with anything in excess of that to be divided between the company and the domestic consumers. This decision of the Michigan Commission has recently been sustained by the Michigan Supreme Court,<sup>10</sup> so that the fate of the Detroit Plan will now rest in the State Commission.

#### *Burden of Investigations*

The increasing tendency of both State and Federal Governments to subject all character of businesses to questionnaires and investigations is well known. Probably no industry has had to submit to more inconvenience and expense in pursuing this objective than has the public utility industry. Late in 1937 the United States Supreme Court held that the Natural Gas Pipeline Company of America must submit to an investigation by the Illinois Commerce Commission,<sup>11</sup> and was required to open its books and records to that Commission, although not subject to its jurisdiction. Such was held not to be an unconstitutional proceeding and not a burden on interstate commerce.

Then early last year the United States Supreme Court decided that the Arkansas Louisiana Gas Company<sup>12</sup> had to file copies of contracts and agreements and furnish other information to the Arkansas Department of Public Utilities, although the con-



tracts involved the sale of gas in interstate commerce and were not subject to jurisdiction of the State Commission. Shortly thereafter the Petroleum Exploration Company in Kentucky was required to submit to a full investigation by the Public Service Commission of Kentucky, although the company was not a public utility and was engaged solely in the sale of gas at wholesale to distributing companies.<sup>13</sup> It was there stated that the incurrance of expense involved in complying with an order of the State Commission requiring the production of information and the risk of being subjected to a severe penalty for non-compliance was not the sort of irreparable injury against which a court of equity would protect, even though the expense of complying with the order was greater than that of testing out the jurisdiction of the Commission in the court proceeding. It was also stated that the expense and annoyance of litigation was a part of the social burden of living under government and that the proceeding initiated by the State had to be finished before the jurisdictional question could be determined.

#### *No Break on Probes*

From these court decisions it is apparent that there has been no brake applied to the government investigators.

For some time past there has been a decided tendency on the part of the Federal Commissions to have the courts establish the finality of many of their orders. The point of view that seeks to prevent a judicial review of an order of an administrative body can be explained only by a desire for bureaucratic power.

There has always been embodied in our jurisprudence the right at least to one review of a trial court's judgment. The Federal Commissions have pursued a doctrine bearing the label "negative order," until many of the orders of administrative bodies were considered not reviewable by the courts. This doctrine was held to prevent a review of orders refusing the right to consolidate properties, or denying an application for authority to build a hydro-electric project, or denying an exemption from certain restrictions under a statute.

In three cases<sup>14</sup> decided on April

17, 1939, the Supreme Court of the United States in opinions rendered by Mr. Justice Frankfurter swept aside the confusion that has lately existed, and the doctrine of negative orders no longer remains. The court said:

"We conclude, therefore, that any distinction, as such, between 'negative' and 'affirmative' orders, as a touchstone of jurisdiction to review the Commission's orders, serves no useful purpose, and insofar as earlier decisions have been controlled by this distinction, they can no longer be guiding."

These cases will be recognized as landmarks in the field of Administrative law and will serve to make more secure the rights of parties before commissions.

#### *Taxation Problems*

There is one other group of court decisions that is of general importance to the natural gas industry, particularly to those companies engaged in operating pipe lines across state lines. The increasing tax burdens of government have caused the state taxing authorities to seek additional sources of revenue. Since interstate commerce has long been free from taxation burdens under the protection of the Federal Constitution, companies engaged in interstate activities have not been subject to taxation as freely as those operating wholly in intrastate commerce. Formerly the decisions of the Federal Courts held to be illegal the imposition of privilege, franchise and sales taxes when no local business was carried on. Such taxes were held clearly to be burdens upon interstate commerce, and this was prohibited by the Federal Constitution.

Since the change in the personnel of the Supreme Court of the United States took place there has been a weakening of the doctrine formerly held well-established, and the state taxing authorities have been permitted to make inroads against our defenses. In April, 1938, the Court applied this new theory to the natural gas business carried on in interstate commerce.

The State of Louisiana in 1932 enacted a license tax law requiring the payment of \$1.00 per horsepower for the privilege of operating prime movers for the production of power. It was applied by the State authorities to natural gas companies operating compressors on interstate pipe lines.

The Arkansas Louisiana Pipe Line Company contested the tax.<sup>15</sup> The industry knows that the use of a compressor is essential to moving the gas and is operated for no other reason. It would seem clear that a compressor is an essential factor to carrying on the interstate commerce and that the generation of power in the combustion chamber cannot be a separate and distinct operation from the transmission of that power to the moving gas. However, the United States Supreme Court was able to see a distinction in the two ends of the compressor for the purposes of taxation. It said that privileges closely connected with commerce might be regarded as distinct for the purposes of taxation and, while the combustion and compression units are assembled on a common bed plate, their functions are separate. While the use of the engine for producing power was synchronized with the transmission of that power to the compressor, the production of the power was said to occur prior to transmission and so was a local activity. This distinction was commented upon by an official of another state in this manner: If a locomotive is pulling a string of cars from one state to another, the operation of the locomotive is in interstate commerce, but if the locomotive is pushing the cars across the state line, then a local activity that can be taxed is taking place.

It is not surprising that the court found it necessary to distinguish three cases decided within recent years under which a tax such as this would be held a burden on interstate commerce. The fact that the imposition of a state tax adds to the costs of conducting the interstate commerce is not deemed sufficient to constitute the tax an interference with that commerce. This is a departure from previous holdings and might be characterized as the beginning of a new doctrine in the field of taxation as applied to an interstate activity. So long as the same activity cannot be taxed by another state, then no burden is assumed to exist. There must be duplicate taxation on the same activity before there is such an interference with interstate commerce as would justify court protection. This protection now is not against a burden on interstate commerce but is against multiple taxation.

(Continued on page 240)



# The Science of Selling . . . A Symposium of Modern Gas Sales Plans and Policies

- The two articles which appear below complete the symposium of modern gas sales plans and policies which featured the last two issues of the MONTHLY. Six articles were published in April and four in May.
- Written by outstanding sales executives, these articles constitute a significant contribution to sales thought. The entire series is recommended for all alert gas men.



By  
Robert D. Stuart, Jr.  
Sales  
Manager

Fall River  
Gas Works Co.  
Fall River, Mass.

## SALES PLANS MUST BE ADAPTED TO LOCAL CONDITIONS

IN any discussion of sales plans and their results our attention is likely to be centered on only that division of our activity or appliance which has produced the most outstanding results.

Such results are usually accounted for by the fact that more time and hard work have been devoted to that appliance, and that is not exactly what might be called news. However, in reviewing our promotional plans for the past year we find that our heating activity not only produced most satisfactory results, but provided the most interesting and varied problems and solutions as well.

Our experience in this field illustrates again how necessary it is to adapt plans to the peculiar local circumstances and how widely those circumstances may vary between different cities which may seem to be similar.

A survey of Fall River brought out the fact that less than 25% of our homes have central heating. The rest of them are heated by means of parlor stoves or kitchen ranges, with by far

the greater number being parlor stoves. This stove is locally known as a base heater. It stands upright and cannot be used for cooking purposes. It has been superseded in more modern times by the Victrola-type circulating heater. This heater is located in a large room which is a combination kitchen, dining room and general living room. The range and sink are usually located in a small "sink room" just off this all-purpose room. The more pretentious homes, with a real dining room and parlor in the front of the house, will have a second parlor heater in one of these rooms.

Since the 25% of centrally heated homes are fairly well saturated now with either gas or oil for automatic heating, and since our company is pretty well committed in all fields to the policy of concentrating its efforts on the bulk of its medium-income customers, we had to find a way to break into this parlor-stove type of heating. The result was that now we have made

a complete change of emphasis from central to localized heating.

We also found that 80% of our customers rent their homes. Accordingly, some time ago we began a rental plan with burners which were installed in the parlor stoves. This plan, as we believe all rental plans should be, was a first step to gain public acceptance of this type of heating. After a fair degree of success in installing about 100 per year the first three years and removing about one-third of them, we launched into the promotion, on a straight sales basis, of regular gas-designed room heaters which give every promise of all continuing in use indefinitely.

### Rental Factors

One of the problems in connection with the rental burners was finding one that would stand up under the high input they were required to carry in order to heat 3 or 4 rooms from one appliance. The annual consumption per unit would run from 75,000 cubic feet to 200,000 cubic feet.

This situation produced the same problem with respect to the gas-designed circulating heaters, but we found that we could use very advantageously a large-sized type designed for manufactured gas which had been developed for the localized heating needs of the natural gas territories.

Last year we installed this type of heating for 100 new customers, both residential and commercial, 10% of whom used two heaters rather than one, and found that the results pointed to the following interesting facts:

1. This is a type of appliance and form of heating which can be sold by the ordi-

*MANAGEMENT will do well to remember that salesmen work for two kinds of compensation—that of the pocket and that of the heart.*

—C. K. WOODBRIDGE

nary district salesman. The personnel of our heating department, in many cases, merely gives such technical advice prior to the sale as may be necessary.

2. The use of gas for this type of application will average 150,000 cubic feet, which on the 47½¢ step of the rate costs a little over \$70 for the heating season. This is within the pocketbook of the great bulk of our medium-income customers.

3. The use of gas in these heaters which are placed right in the room averages at least 15% less than the use by a central system heating an identical apartment.

4. Thermostatically controlled, absolutely clean, odorless heat provides a sales argument which is much more appealing to this type of customer than to the customer who can confine dirt and ashes to his cellar.

#### *New Construction Market*

In the field of central heating we have found it most advantageous to concentrate our efforts on new construction, particularly with the speculative builders. Analysis of all the new construction in the city in the year 1937 showed that 9 out of 16 customers who used gas for heating their new homes used an average of 4,530 cubic feet monthly for cooking, water heating and refrigeration. The other 7, whose houses were heated with oil, averaged 1,254 cubic feet for the other uses. Therefore, to obtain the other use we have to acquire the heating and we have to acquire it when the house is built.

Winter air-conditioning has provided us with the solution of how to appeal to the speculative, small-town builder. The system, completely installed, costs the builder less than any other type of fully automatic heat, and in a town where house insulation is an accepted necessity heating costs can be guaranteed without much danger.

By guaranteeing to the builder, not the consumer, that we would remove the equipment and pay him the installation costs of competing equipment if we did not meet our estimate we got the ball rolling and now we find the guarantee unnecessary. The idea that

winter air-conditioning is the last word in heating comfort provided the builder with the final requisite to make the whole thing click, with the result that for over two years we have obtained for gas heat considerably over half of all the residential building, both speculative and private, that has been done in the city.

In order to provide the builder with equipment at an investment cost less than any other type of heat, we found



By  
R. J. Rutherford  
Vice-President

it necessary to resort to the practice of by-passing the heating contractor. Heating contractors make all our installations, but receive no merchandise commission on speculative building. They agreed to this quite willingly, admitting that they never made any money on speculative building anyway, and have found that it has provided them with merchandise profit on subsequent private building which they otherwise would have never received.

Worcester  
Gas Light Co.  
Worcester, Mass.

## DESIGN YOUR RATES TO FIT THE POTENTIAL MARKET

SOME one once said that the future of the gas business is dependent on three things, namely:

1. Market studies to determine what people want and the price they'll pay.
2. A rate for every market or sub-division of these markets if necessary.
3. Ask people to buy.

As a corollary to these is another thought, namely:

Make as many rates as low as necessary to get the business and then find out how to lower production and other costs so you can afford these rates.

Generally speaking, this is a nutshell picture of our program.

We have completed our market studies. We have divided these markets into the ordinary major classes, Domestic, House Heating, Commercial and Industrial. Here we leave the normal classification and make these further sub-divisions. Under Domestic four, under House Heating three, under Commercial eight, under Industrial ten.

This means that carrying this theory to completion, it would require at least twenty-five rates.

It is conceivable that even these rates may be so designed that one rate might further break into several parts or groups so that further refinement in application would result.

As a concrete example, under the Domestic Classification one of the markets we encounter is that of kitchen heating. While this particular market or sub-division may be peculiar to our territory, it will serve to illustrate our policy.

Our Kitchen Heating rate is so designed that it breaks in its application into the following groups within this market:

*Group 1.*—Those customers obtaining water heating from a manual heater or as a by-product of kitchen heating.

The rate breaks here at 2000 c.f./mo. to 50c for all additional gas.

*THE technique of selling is really a fine art. It embodies all the nuances of diplomacy, strategy, initiative, aggressiveness, persuasiveness and direction—and last but not least, good common sense.*

—HARRY SIMMONS

**Group 2.**—Those customers obtaining water heating as in Group 1 but having a gas refrigerator.

The rate here is 10c/mo. fixed charge and 50c over 2000 c.f.

**Group 3.**—Those customers having automatic water heating.

The rate here has a fixed charge varying between 20c and \$1.00 per month depending on the equipment size plus 50c gas over 2000 c.f.

**Group 4.**—Those customers having both automatic water heating and refrigeration.

The rate here would include the fixed charge for refrigeration and water heating and then 50c gas over 2000 c.f.

This rate has been in effect for a year and its operation has worked excellently both from its saleability and from the standpoint of customer acceptance. More important, it has permitted the entrance into markets previously closed to us.

This same principle can be applied to House Heating. Here the rate breaks into three general groups.

**Group 1.**—Small homes under 250 ft.<sup>2</sup> steam—4 to 5 rooms, \$4000 to \$6000 value.

**Group 2.**—Medium homes 250 ft.<sup>2</sup> to 500 ft.<sup>2</sup> steam—6 to 8 rooms, \$6000 to \$10,000 value.

**Group 3.**—Larger Homes.

The rate should break so that each of these groups in effect earns a price for gas comparable with the competitive fuels in each, but, more important, so designed that rate reductions are divided into these groups so that you are in the best position to obtain a real share of the potential markets whether they be existing homes or new construction contemplated. Have the rate fit the potential

The same theories or principles can be applied to the other major market classifications.

In summing up it might be said that we believe in and are practicing our belief that what we need is more rates, complicated if necessary but designed to fit each market, even small parts of each market. We believe there are segments of markets that can afford to pay and are willing to pay a price at which we can afford to sell.



Entranced by the Victor Puppet Opera in the Court of Flames Theatre at the New York World's Fair, little Iliana Semmler, of Forest Hills, L. I., takes a close-up view of the leading characters in "Rigoletto"

## Gas Industry Presents Puppet Grand Opera

**G**RAND OPERA by puppets made its official debut before New York World's Fair audiences on May 10 in the "Court of Flame" theatre housed in the Gas Industries Building at the Fair. Verdi's "Rigoletto" was presented by the Victor Puppet Opera Company, Ernest Wolff's troupe of 160 stringless puppets whose acting is synchronized to recordings of famous popular grand operas.

Press previews brought high praise to this unique entertainment feature which is part of the gas industry's exhibit at the New York Fair. Crowds have been so great at the daily performances since the opening that many have been turned away. A repertoire of seven operas will change weekly, consisting of "Faust," "Aida," "Hansel and Gretel," "La Traviata," "I Pagliacci," "Carmen," and "Rigoletto."

## Adopts Fair Theme for Gas Range Campaign

**T**HE first well-rounded promotional effort using the Gas Industries Exhibit at the New York World's Fair as a centralized theme was announced in a striking portfolio recently released by the American Stove Company, makers of Magic Chef gas ranges. "Here Today—The Range of Tomorrow" is the theme of the campaign which presents many sales aids for the util-

ity and dealer, encouraging them to tie up directly with the gas exhibit at the Fair.

A feature of the campaign is a unique new sales kit, designed by George H. Schlatter, general sales manager of The Laclede Gas Light Co., St. Louis. In a compact, leather-bound case, the kit contains these thirteen items: gas range top burner, flexible tubing, rockwool insulation, small blow torch, measuring cup, candle, miniature broiler pan and grid, regulator wheel, sales visualizer, instruction data, bank, box of incense, and a penny. Effective use of this kit in one large gas company resulted in a 58 per cent increase in range sales for January over the same month last year, and the largest volume of sales for any January in the past ten years.

Also emphasized in the campaign is the Lifetime Bumer Guarantee offered by this company.

## First Lady Impressed By All-Gas Home

**M**RS. FRANKLIN D. ROOSEVELT paid a surprise visit to the New York World's Fair on May 2 during which she inspected the gas industries exhibit and expressed keen delight at Homewood, the All-Gas Good Housekeeping Home which stands in the landscaped patio of the exhibit group. Writing in her widely syndicated column "My Day," Mrs. Roosevelt described Homewood as "a charming little house which includes many gas appliances of interest to the housewife." She spent more than a half hour in the model home.



## Three-Purpose Gas Range Taps New Low-Income Market

A recent development which has had successful application in the territory of the Central Hudson Gas and Electric Corporation, Poughkeepsie, N. Y., is a three-purpose gas range which not only serves for cooking but combines a water heater and space heater as well. It has proved conspicuously successful in replacing competitive equipment. As in the case of the Worcester combination water heater described in the February issue of the MONTHLY, this range was developed to meet specific market conditions. However, it has wide application and supplies another effective tool to reach the low-income groups. This article by C. H. Adler, of the Central Hudson Gas & Electric Corporation, gives an interesting and significant account of the company's experience with this new appliance.—EDITOR.



*Gas range with panels removed showing water and space heating mechanism*

WE have been using the three-purpose type gas range since the summer of 1935. At that time the one we used had a limited demand water heater installed in the storage compartment. This water heater was connected to an existing storage tank with an insulating jacket. Our experience with this equipment showed us the need for a self-contained three-purpose range with hot water always available and led to the development of a compact instantaneous water heater designed for installation in a range.

This improved type of three-purpose range has been used in our territory since the fall of 1936, and we have 61 installations that have been used for more than two years. It has been a very satisfactory appliance and has been an excellent means of modernizing old kitchens. This one compact appliance has replaced coal ranges, combination ranges, pot stoves, range waterback and non-automatic tank heaters. Below is a summary of the equipment replaced by the three-purpose ranges we have installed.

### Cooking Equipment Replaced

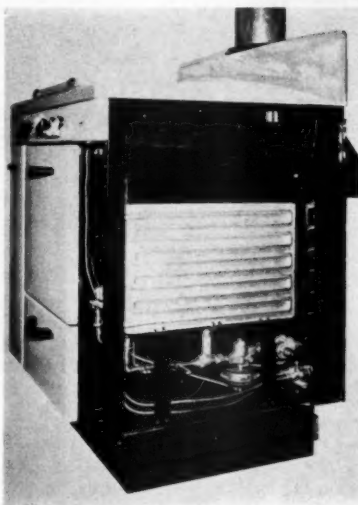
Coal Range	Coal Range and Gas Range
9	17

### Water Heating Equipment Replaced

Water Front and 30 Gal. Boiler	Water Front and Tank Heater
18	15

The range used is a table-top model with the water heater and space heater installed in the utility compartments.

The space heater is manually operated so the customer has complete control of the heating cost. The water heater is an efficient appliance and the operation is controlled by the hot water faucet. This type of water heater eliminates the need for a tank with its resulting expensive installation cost and standby loss. The quantity of water the customer can use is not limited, and this has a definite sales appeal coupled with the fact that the water heat-



*Side view of three-purpose gas range*

Comb. Range	New Customer	Misc.
7	5	7
Tank Heater	No Previous Hot Water	Furnace Coil or Pot Stove
7	17	4

ing burner only comes on when a hot water faucet is opened.

We have operating cost figures for some 38 installations in various parts of our territory and they show the following results:

*Average Monthly Gas Usage before Installing 3-Purpose Range*  
1850 cu.ft. (340 B.t.u. gas)

### Revenue Increase

\$ 1.98 per month or a revenue of 75¢/M for the increased gas usage;  
\$23.76 annual increase in revenue.

*Average Monthly Gas Usage after Installation of 3-Purpose Range*  
4490 cu.ft.

*Average Increase in Gas Usage*  
2640 cu.ft.

We believe there are very good future possibilities for this type of equipment, as it is a modern, efficient and economical appliance supplying the three essential services for which every user of a coal or combination range is a potential customer.

## Gas Utilization Book Offered by P. C. G. A.

THE Pacific Coast Gas Association has published a new edition of the architects and builders manual, formerly called the *Data Book on Gas Fuel*, now renamed the *Data Book on Gas Utilization*.

Written in semi-technical style the 56-page book includes chapters on design of house piping, vents and flues, gas ranges and cooking devices, gas refrigeration, domestic and commercial water heating, househeating and other domestic gas appliances.

The text was prepared by a committee of the Association headed by Frank L. Moon of the Southern California Gas Company, working under the supervision of H. Roy Kelley, prominent California architect.

It is intended primarily for sale to gas companies for distribution to architects and builders. It will be sold at cost and estimated handling expense. Single copies are priced at 75 cents each, lots of 10-99 at 60 cents each, and lots of 100 or more at 50 cents each.

# Personal AND OTHERWISE

## Woolfolk Heads United Light & Power Co.



Wm. G. Woolfolk

**W**ILLIAM G. WOOLFOLK, for many years a prominent figure in the utility world, was named president of United Light & Power Co., April 26 succeeding Charles S. McCain. Mr. McCain resigned to become an officer of Dillon, Read & Co.

As new head of the United Light & Power organization, Mr. Woolfolk also takes leadership in American Light & Traction, United Light & Railways Co., and Continental Gas & Electric Corp., which are affiliated concerns. He will retain his presidency of Michigan Consolidated Gas Co. with headquarters at Detroit. The Michigan Consolidated Gas Co. is the successor of the Detroit City Gas Company which six months ago changed its corporate name and purchased the Muskegon Gas Co., the Grand Rapids Gas Light Co., and the Washtenaw Gas Co.

Mr. Woolfolk went to Detroit in 1932 as president of the Detroit City Gas Co. From 1914 to 1930 he had been engaged in a consulting engineering practice in Chicago. Between 1923 and 1930 he was head of the consulting firm of William G. Woolfolk & Co. He studied at the Sheffield Scientific School of Yale University.

Succeeding Mr. Woolfolk as a director in American Light & Traction is Frank L. Conrad, vice-president of Michigan Consolidated Gas Company, who was associated with the firm of William G. Woolfolk & Co. in Chicago and prior to that with the engineering firm of Sanderson & Porter.

## Jack Ainsley Honored on Retirement

**J**ACK AINSLEY, who recently retired as superintendent of gas distribution for the Peoples Light Company, Davenport, Iowa, was honored along with other veteran employees of the company at a dinner, April 27, attended by more than 200 members and fellow employees. Mr.

Ainsley was presented with a gold pin for being the oldest employee in point of service. He entered the employ of the company on April 6, 1886.

Otto Dice, who has been connected with the Peoples Light Co. for a number of years, will take over most of the duties performed by Mr. Ainsley as superintendent of gas distribution. Mr. Dice's title will be street department superintendent of gas distribution.

## Sales Executives Named in Washington, D. C.



A. J. Maloney

Two major changes in the Washington Gas Light Company's selling organization were announced recently by E. J. Boothby, vice-president and general manager.

A. J. Maloney has been promoted from retail sales manager to the position of general sales manager, succeeding H. M. Brundage, recently resigned. R. A. Gordon, formerly general sales manager of the Blackstone Valley Gas and Electric Company, Pawtucket, R. I., has been appointed retail sales manager of the Washington company.



R. A. Gordon

Mr. Maloney, one of the youngest sales executives in the gas industry, has had a rapid rise in the company's sales department. Starting eight years ago as a field salesman, he was successively supervisor of the range and water heater division, retail sales manager, assistant general sales manager, and now general sales manager.

Mr. Gordon joins the company with more than 22 years' experience in the utility and appliance manufacturing business. He has served in executive capacities in the sales departments of gas and electric utilities in Illinois, Kentucky, Michigan and Rhode Island.

## Central Hudson Appoints New Vice-Presidents



R. B. MacGuinness

Mr. MacGuinness has been associated with Central Hudson for 16 years. For the past 13 years he has been operating manager and has been a director since August, 1932.



H. E. Dexter

Mr. Dexter became general commercial manager 13 years ago. He has been a director of the company since September, 1935, and is at present chairman of the General Sales Committee of the Edison Electric Institute. For a number of years Mr. Dexter has been an active worker in the Commercial Section of the American Gas Association. He was chairman of the Appliance Financing and Dealer Relations Committee from 1936 to 1938.

## Vogan to Direct Branch Laboratories

**W**H. VOGAN, formerly chief inspector of the Cleveland Testing Laboratories of the American Gas Association, became supervisor of the West Coast Branch in Los Angeles on May 1 replacing F. O. Suffron, who had been in charge for the past two years. This change is in line with the policy of periodically exchanging personnel.

Mr. Vogan was graduated from the mechanical engineering department of the Tri-State College of Engineering in 1927. He joined the staff of the Testing Laboratories in August, 1928, and has been employed continuously since that time.

During this period he took an active part in the extensive mixed gas research program, as well as the investigation of cast iron pipe joints. He was appointed chief inspector of the Testing Laboratories in February, 1937, and served in that capacity until his transfer to Los Angeles.

## Gets Leave of Absence from Active Duty



C. R. Phenicie

**C. R. PHENICIE**, vice-president, Wisconsin Public Service Corporation, Green Bay, was granted an indefinite leave of absence from active duty with the company effective May 1, according to an announcement by J. P. Pulliam, corporation president.

Mr. Phenicie requested that his responsibilities in the company's operations be lessened in order that he might attempt to rebuild his health. He continues as an officer and director of the company.

The temporary retirement of Mr. Phenicie interrupts a record of utility service that dates back to 1901 when Mr. Phenicie went to work for the Dearborn Light and Power Company. Following employment in Chicago Mr. Phenicie went to Green Bay in December, 1911, and since that time has successfully filled the positions of superintendent, general manager, vice-president and director of the company which has grown to an organization now serving over 200 communities in Wisconsin.

## Elected President of Interstate Power



B. F. Pickard

**B. F. PICKARD**, who has been president of the Central States Power & Light Corporation for the last five years, was elected president of the Interstate Power Company at a meeting of the board of directors held on May 4, in Dubuque, Iowa. Both Central States Power &

Light Corporation and Interstate Power Company are subsidiaries of the Utilities Power & Light Corporation of Chicago. Mr. Pickard will be located in Dubuque, Iowa, the headquarters of Interstate Power Company. He succeeds James F. Orr, who resigned on May 4 because of ill health.

In addition to directing the business of Interstate Power Company, Mr. Pickard will continue to supervise the properties of Central States Power & Light Corporation situated in Iowa, Minnesota and North Dakota. He will also continue as a Director of The Laclede Gas Light Company and the Missouri Natural Gas Company

with which organizations he has been closely affiliated for several years.

Interstate Power Company and its subsidiaries render electric, natural gas, manufactured gas and water services to 327 communities in Iowa, Illinois, Nebraska, Minnesota, North Dakota, South Dakota and Wisconsin.

## Elected Vice-President of Milwaukee Co.



B. T. Franck

manager, succeeds Mr. Franck as sales manager at Grand Rapids.

Prior to his connection in Grand Rapids, Mr. Franck was superintendent of sales for the American Light and Traction Company. He has been an active worker in American Gas Association activities and has made many important contributions to its meetings. He is at present a member of the Refrigeration Committee and last year was a regional director of the CP gas range program. He was chairman of the Mid-West Regional Gas Sales Conference in 1938.

## East Ohio Announces Executive Changes

**RETIREMENT** of John J. McMahon, vice-president of The East Ohio Gas Company, Cleveland, and promotion of three men to executive positions were announced April 26 by C. E. Gallagher, president of the company.

William G. Hagan, former assistant general manager, became vice-president and general manager after 27 years with the company. William G. Rogers, secretary-treasurer, was made vice-president following 25 years of service, and Peter F. Leusch, a junior clerk 19 years ago, is the new secretary-treasurer.

Mr. McMahon started in the gas business 40 years ago as a tally clerk and worked his way through the ranks until he became vice-president of East Ohio in 1933. He is a member of the American Gas Association.

Mr. Hagan became assistant general manager three years ago. Mr. Rogers, as secretary-treasurer, handled the refunding of more than \$3,000,000 in 1933 after a rate reduction. Both men are members of the American Gas Association.

## Stanley Jenks Joins Welsbach Company



Stanley Jenks

**ACCORDING** to an announcement by Morse Dell-Plain, chairman, executive committee, Stanley Jenks, formerly editor of *Gas* and utility sales executive, has been appointed, effective May 15, to the staff of Welsbach Street Illuminating Company, Philadelphia, Pennsylvania, where

he will be located.

The Welsbach Street Illuminating Company owns and operates among others the Kitson Company, manufacturers of gas stops for high and low pressures, meter connections, shut-off and temperature and pressure relief valves.

Also included in the Welsbach group are Ozone Processes, Inc., manufacturers of equipment generating ozone electrically for water, sewage and industrial waste treatment; Welsbach Street Lighting Company of America, engaged in the maintenance and construction of gas and electric street lighting systems and equipment; and the Welsbach Traffic Signal Company, manufacturing, selling and maintaining traffic signal equipment.

## U. S. Chamber Director

**GEORGE S. HAWLEY**, president of The Bridgeport Gas Light Co., Bridgeport, Conn., was elected a director of the first district of the United States Chamber of Commerce at the annual meeting of the chamber, May 4. Mr. Hawley is a director of the American Gas Association and one of the country's leading utility executives.

## Appointed CP Range Field Worker



John E. Bogan

**J. E. BOGAN**, of J. Peoria, Illinois, has been appointed field sales counselor of the Association of Gas Appliance and Equipment Manufacturers' domestic gas range division. Mr. Bogan, formerly director of sales promotion for the Central Illinois Light Company, will devote his time exclusively to field activities of the CP gas range program.

Mr. Bogan has been associated with the Central Illinois Light Company in various capacities for more than fifteen years.



# AFFILIATED ASSOCIATION

## *Activities*

### Indiana Gas Association Holds Pace-Setting Convention



Officials of the Indiana Gas Association shown at the Fort Wayne convention. Left to right: H. W. Thornburg, secretary-treasurer; Dean H. Mitchell, retiring president; E. D. Anderson, director; T. J. Kelly; H. V. Armstrong, vice-president; and P. A. McLeod, president

FIVE hundred leaders of the militant gas industry in Indiana—the industry providing gas for cooking to a dominating majority of Hoosier homes—are back at work after one of the most successful conventions in the history of the Indiana Gas Association. The convention was held in May at Fort Wayne, a city in which the gas company serves more than 24,000 of the 27,000 homes with gas despite the competition of a private electric utility and a municipal light plant.

Paul A. McLeod, New Castle, division manager of the Public Service Company of Indiana, was elected president of the association, succeeding Dean H. Mitchell, president of the host company, Northern Indiana Public Service Company. Other officers and new directors elected were H. V. Armstrong, president of the Indiana Gas Utilities Company at Terre Haute, vice-president; H. W. Thornburg, local manager of the Central Indiana Gas Company at Anderson, secretary-treasurer, and F. B. Culley, president of the Southern Indiana Gas and Electric Company at Evansville; E. D. Anderson, vice-president of the Northern Indiana Public Service Company at Hammond; Guy Henry, president of the Central Indiana Gas Company at Muncie, and Dean T. Burns, assistant manager of the Citizens Gas and Coke Utility at Indianapolis, directors.

With a convention theme of "Gas for the 4 Big Jobs," the men and women attending the convention were impressed

by the barrage of gas advertising which greeted them on every side. In the convention hall and scattered all over the city were billboards on gas ranges, water heating, refrigeration and "Let Gas Do the 4 Big Jobs." A rotogravure full page advertisement pointed out the increasing number of All-Gas Homes, and a number of the visitors inspected a home-building project in which 21 out of 23 newly constructed homes were all-gas.

In addition to single and double pages featuring dealer advertisements in the association's semi-annual state-wide gas range month activity, the Maytime gas range campaign was emphasized by uniform window displays designed by the association and appearing throughout the downtown section in the windows of leading dealers. Newspaper advertising on the CP ranges also appeared in both of the daily newspapers each day during the convention.

One of the tangible results of this meeting in highly competitive territory was additional selling of the public on the gas industry's modernity and aggressiveness.

The high point of the convention was the president's address, in which Mr. Mitchell asserted that ahead of the industry lies the challenge to discover, through research, methods of providing gas at constantly lowering cost to the customer and, through advertising and a well-informed personnel, to tell the complete story of the "4 big jobs" and the decreasing cost to the customer as he adds new appliances.

Particular significance was attached to the remarks of Mr. Mitchell as head of the largest public utility in Indiana and this utility a combination company, in which he discussed competitive fuels, stating that where both major services were available, the vast majority of the homes used gas for cooking.

"But, unless these homes have a modern gas range and experience its added superiority—that is, the fuel plus the appliance—they still should be considered vulnerable to the competitive selling job," he asserted.

Other speakers on the program were R. S. Agee, sales promotion manager of the Association of Gas Appliance and Equipment Manufacturers, New York City; J. Raymond Schutz, president of the Standard Life Insurance Company of Indiana, Indianapolis; George S. Jones, Jr., vice-president and general sales manager of Servel, Inc., Evansville; A. A. Potter, dean of the school of engineering, Purdue University; Eric A. Nicol, assistant director of employee relations, The Peoples Gas Light and Coke Company, Chicago; R. Earl Peters, state director, Federal Housing Administration, Indianapolis; C. O. Mattingly, attorney-examiner of the Public Service Commission of Indiana; Harry G. Hogan, president of the Dime Trust and Savings Bank, Fort Wayne, and E. G. Peabody, Citizens Gas and Coke Utility, Indianapolis.

### Pennsylvania Gas Association



L. B. Eichengreen

DISTRIBUTION, production, new business and customer and employee relations problems were discussed at the thirty-first annual convention of the Pennsylvania Gas Association held at Skytop, Pa., May 2-4. More than 400 delegates were in attendance at the

three-day meeting.

Leon B. Eichengreen, vice-president, Philadelphia Electric Company, and a recently named director of the American Gas Association, was elected president of the Pennsylvania Association for 1939-40. Other officials elected were: first vice-president, M. A. Boylan; second vice-president, P. T. Dashiell; third vice-president, F. W. Lesley; secretary, William Naile; treasurer, W. G. Sterrett. Newly elected members of the council are E. E. Linburg, C. K. Steinmetz, F. W. Bender, J. J. Moffatt and W. J. Ryan.

In the presidential address, E. E. Mensch, Pennsylvania Power & Light Co., Williamsport, called attention to the gain in public acceptance of gas-using appliances. He attributed this to the long-term national advertising campaign conducted by the American Gas Association along with the

local gas companies promotional advertising which, he stated, "has put us on the Map."

Featured on the second day's program were Conrad N. Lauer, president, American Gas Association, and Gerald E. Stedman, vice-president, National Research Bureau, Chicago. Mr. Lauer reported that sendout of gas companies for the first three months of 1939 show a gain of 3.52 per cent over the first quarter of 1938. He emphasized the fact that a "live militant gas industry exists today."

Other speakers heard at the convention were R. L. James, Harrisburg; Stephen A. Kuntz, Philadelphia; Robert T. Jones, Allentown; William A. Hill, Wilmington, Del.; Edwin W. Nick, Erie; R. L. Fletcher, Providence, R. I.; H. N. Ramsey, Gloucester, N. J., and R. A. Malony, Bridgeport, Conn.

## Gas Measurement Course Breaks Record

**A**TENDANCE records were broken at the fifteenth annual Gas Measurement Short Course held at the University of Oklahoma, Norman, April 18, 19 and 20. A total of 551 employees of gas, gasoline, and oil companies from 24 states attended the meeting for the purpose of studying gas measurement problems.

Fay C. Walters, superintendent of measurements, Panhandle Eastern Pipe Line Co., Kansas City, Mo., was named general chairman for 1939-1940, succeeding L. G. Rheinberger, engineer, Sinclair Prairie Oil Co., Tulsa. Mr. Walters was chairman of the committee which arranged the program for this year's meeting. Dean W. H. Carson, University of Oklahoma, was named vice-chairman. R. M. Scofield, Lone Star Gas Co., Dallas, was appointed chairman of the Committee for Study of Practical Methods to serve during the years 1940 and 1941.

Edward Sackett, Southern Carbon Co., Fairbanks, La., was awarded first prize of \$15 for the best paper on what was learned by attending the school in 1938. Other prizes were awarded as follows: Ten dollars to B. H. Fowler, Phillips Petroleum Co., Bartlesville; and one dollar each to W. J. St. John, La-Del Oil Properties, Monroe, La.; Sible McKay, Victor Gasoline Co., Tulsa, Okla.; L. Dupree Foy, Magnolia Petroleum Co., Dallas, Texas; J. D. Riley, Arkansas Louisiana Gas Co., Shreveport, La.; and W. R. Pike, Cities Service Gas Co., Bartlesville.

A total of 58 separate lectures on special subjects dealing with the measurement and control of gas occupied most of the three days. At several of the general sessions, papers on the fundamentals of gases and meters were read.

The course is held annually under the sponsorship of the college of engineering of the University of Oklahoma, supported by the Corporation Commission of Oklahoma, Railroad Commission of Texas, Kansas Corporation Commission, Oklahoma Utilities Association, Natural Gas Section of the American Gas Association, and the Natural Gasoline Association of America.

## Michigan Gas Association



Davis M. DeBard

**D**AVIS M. DEBARD, of Stone and Webster Service Corporation, New York, will be one of the principal speakers at the annual meeting of the Michigan Gas Association which is being held June 29-July 1 at the Grand Hotel, Mackinac Island, Michigan. Mr. DeBard's subject,

"Merchandising the Four Big Jobs," ties in with the theme of the American Gas Association's national advertising campaign. He is nationally known as an expert on market research and sales promotional topics.

The first session will be a joint meeting with the Michigan Electric Light Association. The presidential address by Arthur P. Eva, National Utilities Co. of Michigan, Benton Harbor, will open the second session, June 30. Fred C. Armbruster will

present a paper on "Building the Gas Load with Water Heaters." Reports on the Gas Fellowship at the University of Michigan will be made at this session by D. W. Hayes, chairman, Technical Committee, and Professor Alfred H. White.

R. S. Agee, Association of Gas Appliance and Equipment Manufacturers, New York, has a prominent place on the final day's program. He will speak on the CP gas range promotional plans. James E. Spindle will describe natural gas developments in Michigan. Other speakers will round out the program.

An attractive entertainment program is being arranged under the direction of Dan W. Hayes and Mrs. Hayes of Port Huron.

## William J. Hill Dies

**W**ILLIAM J. HILL, sales manager of the Detroit-Michigan Stove Co., Detroit, for the past 20 years, died April 20. Mr. Hill had been associated with the company for 42 years, during which time he had become widely known and respected in the gas industry.

## CONVENTION CALENDAR

### JUNE

- |              |                                                                                                    |
|--------------|----------------------------------------------------------------------------------------------------|
| June 1-2     | Natural Gas & Petroleum Association of Canada<br>General Brock Hotel, Niagara Falls, Ontario       |
| 6-7          | Canadian Gas Association<br>Hotel Connaught, Hamilton, Ontario                                     |
| 6-8          | Edison Electric Institute<br>Waldorf Astoria Hotel, New York, N. Y.                                |
| 6-9          | The Institution of Gas Engineers, Annual Meeting<br>London, England                                |
| 9            | Empire State Gas & Electric Association—Gas Operating Group<br>Park Central Hotel, New York, N. Y. |
| 18-22        | Public Utilities Advertising Association, Annual Convention<br>New York, N. Y.                     |
| 19-22        | American Home Economics Association Convention<br>Gunther Hotel, San Antonio, Texas.               |
| 29-30-July 1 | Michigan Gas Association<br>Grand Hotel, Mackinac Island, Mich.                                    |

### AUGUST

- |           |                                                                                             |
|-----------|---------------------------------------------------------------------------------------------|
| Aug. 9-16 | American Transit Association, Annual Convention<br>San Francisco and Los Angeles            |
| 21-23     | Appalachian Gas Measurement Short Course<br>University of West Virginia, Morgantown, W. Va. |

\* Includes exhibit sponsored by A. G. A. Industrial Gas Section.

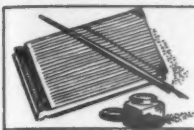
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|------------|----------------------------------------------------------------------------------------|
| Aug. 23-25 | National Association of Railroad and Utilities Commissioners<br>Seattle, Wash.         |
| 22-26      | Home Service Conference and Training Course<br>Chapman Park Hotel, Los Angeles, Calif. |
| 28-31      | American Dietetic Association<br>Ambassador Hotel, Los Angeles, Calif.                 |

### SEPTEMBER

- |           |                                                                        |
|-----------|------------------------------------------------------------------------|
| Sept. 5-7 | Pacific Coast Gas Association<br>Fairmont Hotel, San Francisco, Calif. |
| 9         | Gas Industry Day—Golden Gate Exposition                                |

### OCTOBER

- |        |                                                                                                    |
|--------|----------------------------------------------------------------------------------------------------|
| Oct. 9 | Gas Industry Day—New York World's Fair                                                             |
| 9-12   | American Gas Association, Annual Convention<br>New York, N. Y.                                     |
| 16-20  | National Safety Council<br>Atlantic City, N. J.                                                    |
| 19-20  | Empire State Gas & Electric Association, Annual Convention<br>Westchester Country Club, Rye, N. Y. |
| Wk. 23 | National Metal Congress and Exposition*<br>Chicago, Ill.                                           |



# Accounting SECTION

H. A. EHRMANN, *Chairman*  
F. B. FLAHERTY, *Vice-Chairman*  
H. W. HARTMAN, *Secretary*

## Methods of Accounting for Taxes

By E. I. BJORK

*The Peoples Gas Light & Coke Co.,  
Chicago, Ill.*

IN all probability the taxing system had its inception shortly after primitive man, for social or defense reasons, began to live in communities, where the life of the individual became blended with that of his fellow man. Recognition of the authority of the governing groups that were established and acceptance of the obligation to assist in the protection and furtherance of the interests of the community must have required each able-bodied member thereof to make some form of sacrifice in behalf of the group. The early forms of taxation were certainly too simple to require the development of the science of accounting.

Even as late as the 19th century, in certain European countries where compulsory military training was effective, the inhabitants of agricultural areas were required to till the lands of any neighbors who were serving the colors and to donate to the families of such neighbors a given portion of their crops and other necessities of life. This, then, became a part of the tax for national defense. As communities were, by conquest or otherwise, united into nations, and as life became more complex, the taxing system also had its metamorphosis, but its ultimate emergence as a creature with octopcean characteristics was delayed until more modern times. Of late, it has displayed a great propensity for adding to its many tentacles.

### *The Tax Octopus*

Today, the average gas utility is subject to taxes on gross income or on gross revenues from gas sales to ultimate consumers, on taxable net income, on undistributed net income, on excess profits, if any, on appliance sales, on security transactions, on bond interest, on total pay roll expenditures, on a limited portion of pay roll expenditures, on real estate and personal property values, on intangibles, and on stated stock values. Taxes are assessed by Federal, state, county, city or township, school district, road district, sanitary district, park district, and similar governmental bodies.

In addition, there are assessments, license fees, and permit fees to be paid, which are—in reality—a form of occupational tax, but which, in this discussion of the subject, will not be considered as such. Hidden or indirect taxes, which utilities pay on materials used in the business, but which

they find difficult to pass on to customers because of rigidity of rate structures, are also omitted from this discussion, as in accounting for them, they become a part of the cost of the materials to which they are attached.

The annual direct tax burden of most gas utilities aggregates from 10% to 20% of the total dollars received for utility service rendered. Small wonder then, that many utilities have found it necessary or desirable to establish tax or tax accounting departments, staffed with personnel who must become familiar with all of the provisions of tax laws, which are normally subject to some interpretation.

### *Accounting Principles Unchanged*

Basic methods of accounting for taxes are not particularly affected by the complexity or multiplicity of tax laws. Except as the revised Uniform System of Accounts has required it, there has been no recent development that would cause any change in the methods of accounting that have prevailed in the past. Taxes have probably not been subject to the same variety of accounting treatment as have other items of expense and, under present regulations, there should be even greater uniformity. There exists, consequently, no specific reason for a discussion of the subject, unless it be that we find it desirable to bring up for review, from time to time, practices which have had their origin in the past, and also to examine our methods in the light of present day requirements.

A substantial portion of the taxes payable by gas utilities for a given accounting year cannot be definitely determined until the year has ended or until the results for the year are known. Where the amount of the assessment is in controversy for one or another reason, the taxes eventually to be paid may not be ascertainable for several years. Other taxes can be determined accurately on the basis of monthly transactions or recorded facts.

This necessity for estimating an expense item of considerable magnitude has been a source of irritation to accountants, when viewed from their obligation to present management or investors with reliable periodic statements of income and expense. Too often the accountant has found it necessary to advise the management and in-

vestors that, on the basis of more recent information, adjustments of the tax accruals of past periods have had to be made and that, consequently, the previously reported results for such periods were, to that extent, erroneous.

To avoid the possibility that an investor may rely too implicitly on reported results of interim periods, subject as they are to tax and other adjustments—but particularly tax adjustments, many gas utilities have adopted the commendable practice of noting interim reports as follows: "The earnings for the current period are based on the best information available at this time, but are subject to change if subsequent information necessitates revision."

The recognition of the utter inability to estimate necessary accruals for the various kinds of taxes with complete accuracy has at times stirred accountants into suggestions for "lump sum" accruals. By this method, an estimate of the total tax burden of the year would be made at the beginning of the year on the basis of budget estimates of gross and net income, the best tax information available, and other pertinent data. A proportionate amount of such total taxes would be accrued in each month, without specifically assigning any portion thereof to the various kinds of taxes payable. Modifications in the proportionate accruals for the remaining months of the year would be made as later information warranted change.

### *Streamline Approach*

Such a method could, under favorable conditions, produce results no less reliable than those produced by more complicated methods, and it certainly is an approach to streamlined accounting. If there is any one task that deserves the particular attention of utility accounting executives today, it lies in the direction of streamlining accounting practices to the end that the essential and required information may be had without undue cost, and, in general, at less than the present cost.

The urge to adopt such a "lump sum" method of tax accounting has, however, diminished since the enactment of laws levying taxes on gross revenues from sales of gas and appliances and on pay roll expenditures. The amounts to be accrued monthly for such taxes can be accurately determined at or shortly after the end of the month and to include them in any lump sum accrual, based on an annual estimate of over-all taxes, seems merely to add to the probability of error and the need for frequent adjustment. The practice of set-

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ting aside specific accruals for each kind of tax assessed, using the best information at hand, seems, therefore, to be common to the industry.

Any discussion of methods to be pursued by gas utilities in accounting for taxes, must concern itself with the requirements of the Uniform System of Accounts, which has been adopted by many regulatory commissions. Summarized briefly, these requirements are as follows:

- (1) Periodic accruals for taxes may be based upon estimates, but from time to time during the year as the facts become known, the amount of the periodic accruals shall be adjusted so as to include as nearly as can be determined in each year the taxes applicable thereto.
- (2) The records supporting the entries for the periodic accruals shall be such as will permit the utility to furnish the amount, by classes, of taxes accrued, the basis for each tax accrual and the accounts to which charged, and the amount, by classes, of taxes paid.  
When taxes are based upon an apportionment, the full details as to the method of and facts considered in the apportionment shall be recorded.
- (3) Only those taxes which are applicable to utility operations shall be charged to Account 507. Provision is made for the allocation, to specific accounts, of non-operating taxes, taxes on utility property leased from others, taxes properly includable as part of the cost of construction, taxes applicable to merchandise, jobbing and contract work, and to operations for which clearing accounts are maintained, and taxes on bond interest. Certain other allocations may be implied, such as taxes on labor billed to others.
- (4) Taxes paid in advance of the period to which they are applicable, are chargeable to Account 132, Prepayments, for subsequent distribution to the appropriate accounts in the periods to which they apply.

These regulations or requirements do not disturb in any sense the comparatively simple process of providing tax accruals,—simple, in so far as the mechanics are concerned. The supporting records required are those that would ordinarily be maintained.

For the purposes of providing accruals, taxes may ordinarily be classified into three groups.

The first group comprises franchise or privilege taxes, normally paid in advance of the period to which they are applicable. When paid, they are charged to Account 132, Prepayments, and they are subsequently written off over the period in equal monthly instalments by charges to the proper expense, clearing, or capital account. If not too large in amount, they may be written off in one month.

The second group comprises taxes based on gross income or revenues from the sale of gas or appliances, or on wages paid or earned. These are usually determinable at or immediately following the end of each calendar month and before the books are closed. Account 228 is credited with the

amounts of the accruals so determined, and the proper expense, clearing, or other accounts are charged. When the liability for such taxes is finally discharged, the amount paid is charged to the Taxes Accrued account. Any necessary adjustments between the amount actually paid and the amount previously accrued therefor, are made currently by proper entry to the accounts affected.

The third group comprises real estate, personal property, income, and similar taxes, which are often not ascertainable until some time after the year has closed. Accruals for real estate, personal property, and similar taxes are based on the best information obtainable with respect to valuations and rates, the monthly accrual being equal to one-twelfth of the estimated annual provision. If, during the year it becomes evident that some adjustment must be made in the estimate of annual taxes of this category, the monthly rate of accrual for the remaining months of the year is increased or decreased appropriately. Under certain circumstances, it may be desirable to accrue in the current month an amount that will adjust past accruals to the new basis in order that the balance sheet may properly reflect the full liability for taxes. Any differences between the amounts accrued for such taxes and the amounts subsequently paid, after the books of account have been closed for the year, should be debited or credited to earned surplus. In this connection, it may be appropriate to remark that the practice rather common some years ago, of restating prior years' income accounts to reflect these and other surplus adjustments affecting such years' operations, tends to confuse investors. Much preferred, it seems to me, is the practice of submitting an analysis of the surplus account giving the appropriate details of significant adjustments as a supplement to income accounts, so that investors may be advised of the essential facts and may use such facts as they see fit. An analysis of earned surplus, should, perhaps, accompany each published income account.

#### *Income Tax Accounting*

Most perplexing, perhaps, to the tax accountant, has been the problem of determining upon a sound basis for accruing income taxes, which are computed by the application of statutory rates of tax to the taxable net income for the fiscal period. If the term "taxable net income" were synonymous with "book net income," the problem of providing such accruals would be simple indeed. Such, however, is not the case. A utility, for instance, which refunds an issue or issues of bonds may, on account of such items of expense as premium on bonds called, and bond discount and expense, have a book net income, but no taxable net income for the year in which the refunding takes place. Certain items of operating expense and income are likewise subject to special treatment in determining taxable net income; and surplus and reserve charges or credits, and de-

ferred or suspense items may need to be taken into consideration.

One of the most satisfactory methods of determining monthly accruals for income taxes that has come to my attention is that in which the accruals are based upon annual estimates of taxable net income, with redeterminations made periodically throughout the year to reflect any differences between actual and estimated results.

Under this method, at the end of the first month an estimate of taxable net income for the year is made, using the actual operating results for the first month and budget estimates for the eleven remaining months, with proper adjustments of income and expense items in conformity with statutory requirements. Also taken into consideration, are probable surplus, reserve, and other items affecting taxable net income, dividends to be paid, and debt reductions to be made which have a bearing on tax determination.

Having obtained this data, the estimated income taxes for the year are determined by the application of the statutory rates to the taxable net income. The result is apportioned to the various months on the basis of comparative net book income for each month, and the first month's apportionment is recorded on the books of account. No apportionment is made to months in which losses if any, are estimated to result. This process is repeated at the end of each month, the recomputed tax being reapportioned over all of the months of the year. The accrual for the second month is an amount which will make the cumulative accrual on the books equal to the reapportioned accrual for the first two months, and so on for each succeeding month.

In my opinion, this method is a decided improvement over any which proposes to accrue income taxes from month to month only on the basis of the recorded facts, but without regard for the probabilities of the remaining months of the year.

#### *New System Requirements*

While the provisions of the revised System of Accounts have not necessitated any change in the mechanics of providing accruals, they have established certain requirements with respect to the allocation and distribution of tax accruals which may represent change from previous practices. It is not my purpose to discuss the merits of those requirements. Suffice to say, in the absence thereof, certain of the allocations would in all probability not be made.

From the standpoint of exact accounting principles, no one can deny that the allocation of taxes applicable to accounts which are to be cleared to operating, construction, and other final accounts, is entirely proper. For practical reasons, however, it is equally proper—at times—to deviate from exact accounting principles providing that this does not unduly distort the results. Compliance with the requirements pertaining to the allocation of taxes to operating and non-operating accounts is possible. In the case of property

taxes, apportionments are necessary and there is no general rule that can be laid down for the ascertainment of the proper basis of apportionment except that sound reasonable judgment be exercised.

In the allocation of social security taxes, practicability has decreed that the entire accrual be charged in the first instance to Account 507, and that the various non-operating construction and clearing accounts be subsequently charged, and Account 507 credited, with amounts determined by applying to the total labor charged to such accounts, the current statutory rates for old age benefit and unemployment insurance taxes. While the result so obtained is not exact to the last cent, or even the last dollar, because old age benefit taxes do not apply to earnings in excess of \$3,000 per year, the burden of obtaining the exact amount would not justify the result. Impracticability is the sole basis for any just criticism of the requirements of allocation. Even if permitted by the System of Accounts, I am reasonably certain that it would be no aid to management to extend the principal of allocation of taxes so as to have a distribution to functional groups of accounts. I am also reasonably certain that such a greater distribution of taxes would serve regulatory bodies no good purpose.

Some consideration has been given by public utility accountants to the establishment of a clearing account for taxes so that all essential tax information may be obtained from the analysis of the one account. After giving considerable attention to this matter, we have concluded that the

tax clearing account is not essential and may become burdensome. By clearing prepaid taxes through the Taxes Accrued account, we have found that the latter account serves the same purpose as would be served by a clearing account.

In a discussion of tax accounting methods, it seems desirable to devote some attention to the subject of presentation of tax information to management and investors. Taxes comprise one of the larger items of operating expense. It has been the experience of many utilities that economies in controllable expenses which have been obtained after exhaustive study of operating practices, are often more than offset by increases in the uncontrollable item of taxes. These are facts in which management and investors are vitally interested. To present them fully and adequately, it is necessary to assemble in one tabulation the total tax provision, wherever charged, and to submit a reasonable analysis of the allocation thereof.

A good many utilities have expressed tax information in their annual reports in terms of dollars per employee, dollars of invested capital, and dollars of revenue. Such statistical data are intended to be informative. While interesting, it has been my belief that some of such data are not sufficiently complete in themselves to permit investors to arrive at any logical conclusions therefrom. Their greatest value, perhaps, lies in the opportunities thus afforded of comparing the relative tax burden of one industry with that of another.

## Elected Controller of Philadelphia Co.



F. B. Saunders

THE board of directors of the Philadelphia Company recently announced the election of Frank B. Saunders as controller of the Philadelphia Company and subsidiary companies. Mr. Saunders succeeds C. S. Mitchell, deceased.

The subsidiary companies of the Philadelphia Company include the Equitable Gas Company and the Pittsburgh and West Virginia Gas Company.

Mr. Saunders became affiliated with the Philadelphia Company in 1922 as general auditor. Prior to that date he served as auditor of the Middle West Utilities Company, Chicago; auditor of Kane County, Illinois; auditor of Stone & Webster, Boston, Massachusetts; and auditor for Dwight P. Robinson Company in New York.

## Gas Rates Cut

BEGINNING August 1, natural gas bills of customers served by the Pacific Gas and Electric Co., San Francisco, will be lowered approximately \$1,000,000 a year. Electric bills of the company will be reduced \$2,200,000 a year beginning July 1. These reductions are the culmination of studies made by the California Railroad Commission over a period of months and will become effective by the commission's order.

## Overflow Attendance Marks Natural Gas Accounting Conference



H. A. Ehrmann

AN overflow attendance so large it was necessary to change the meeting place marked the Accounting Section Conference May 8 at the Natural Gas Section convention in Tulsa, Okla. F. W. Peters, chairman of the Subcommittee on Natural Gas Accounting,

and treasurer of the Oklahoma Natural Gas Co., presided at the meeting.

H. A. Ehrmann, of New York, chairman of the Accounting Section, opened the conference with an interesting account of the organization and activities of the Section's committees. Mr. Ehrmann was followed on the program by Oakah L. Jones, Oklahoma Natural Gas Co., who raised the question again of whether it was economical to have many cus-

tomers' deposits. Mr. Jones suggested that each company carefully analyze its own situation to determine whether or not some of their deposits should be refunded.

A valuable discussion of the problems arising because of the present regulatory trend and its effect on property reserves, was presented by F. B. Flahive, Columbia Gas & Electric Corp., New York. L. L. Dyer, Lone Star Gas Co., Dallas, concluded the meeting with a clear outline of the controversial points in the new classification of accounts on natural gas production accounting.

Practically all delegates remained for the roundtable luncheon discussion which followed under the chairmanship of M. S. Crossley, Consolidated Gas Utilities Corp. Discussion at the luncheon revolved around the following points: standardization of reports to financial statistical publishing companies, effect of the Wage-Hour Act, employees rating reports, and periodic analysis of forms and statements.

## Unique Customer Drive

THE Washington Gas and Electric Company, Tacoma, has an interesting new customer drive in progress. It consists of a series of five mailings sent to homes piped but not at present using gas. First is a double, business reply postcard courteously asking for the return of information as to whether or not the occupant knows the house is piped for gas and what fuel he is using. The second is a single postcard of thanks calling attention to the fact that gas service is instantly available.

The third repeats this information and makes a special offer on gas cooking appliances. The fourth again boosts gas cooking under the heading "It's Smart To Go Modern with Gas!" The fifth reiterates 3 points of gas preeminence—"Speed," "Economy" and "Results." All cards are attractively printed and illustrated, and seem sure to achieve noteworthy results.

## Stopper

Here's one you've never heard.—*Servel Electrolux.*



## Commercial SECTION

F. X. METTENET, Chairman

DAVIS M. DEBARD, Vice-Chairman

J. W. WEST, JR., Secretary

### Natural Gas Convention Stresses Domestic Sales Problems



F. X. Mettenet

ADVERTISING, display, dealer financing, home service, CP program, market analyses, and other vital points in the national gas industry sales program were spotlighted at the Domestic Gas Sales Conference during the Natural Gas Section Convention in Tulsa, Okla., last month. The two-day program on domestic sales took place Monday, May 8, and Wednesday, May 10, with F. X. Mettenet, chairman of the Commercial Section, presiding at the first session and Davis M. DeBard, vice-chairman of the Section, conducting the second meeting.

A recognized authority on effective gas displays, Harry Swenson, The Peoples Gas Light and Coke Co., Chicago, opened the meeting with a stimulating talk entitled "A Show Will Let Them Know." Mr. Swenson's remarks will be reproduced in full in a future issue of the MONTHLY.

#### Dealer Financing Topic

Percy Hall, vice-president, Manufacturers Trust Co., New York, next presented his ideas on sound methods of financing the dealer. He stressed the need for ample credit and stated that his institution was willing to take the lead in providing funds for dealer financing.

F. M. Houston, of Rochester, N. Y., chairman of the Domestic Range Committee, in a paper entitled, "The Gas Triangle," urged a united industry to back the CP gas range program. The three sides of Mr. Houston's triangle, namely, gas, the CP range, and the CP Rangers Club, backed by national advertising and local promotion cannot fail to produce results, he averred.

With Mr. DeBard presiding, the Wednesday meeting got under way with an interesting discussion of advertising programs and dealer tie-ins by W. G. Wiegel, Lone Star Gas Co., Dallas. John H. Warden, Oklahoma Natural Gas Company, described the results of dealer cooperation in Oklahoma where utilities are prohibited by law from merchandising.

A valuable talk on "Market Analysis and Developing Supervisors" was made

by Mr. Mettenet, who is vice-president of The Peoples Gas Light and Coke Co., Chicago. He described the results of a market survey which cost his company \$32,000. The survey disclosed that out of 800,000 domestic customers, there was a potential market for house heating of about 25,000 homes in the \$7,500 class with families of \$3,000 annual income. Since 12,000 of these already have been sold house heating, the remaining 13,000 are prospects. Similar analyses were made for water heating, ranges and refrigeration.

A large part of the afternoon program was devoted to a home service symposium entitled "Management Asks—Home

Service Answers." Mildred Clark, Oklahoma Natural Gas Company, stated the questions which were answered in a convincing manner by Gladys Price, of Los Angeles, chairman of the Home Service Committee, Louise Petersen, The Gas Service Co., Hutchinson, Kans., and Albertine Berry, Lone Star Gas Co., Dallas.

"Home Service in a Trade Dealer Plan" was effectively presented by Harry C. Canup, sales manager, Hales Mullaly Co., Oklahoma City. Margaret Thompson, Arkansas Louisiana Gas Co., Little Rock, explained the work of home service in small companies some of which have only one home service girl.

R. S. Agee, Association of Gas Appliance and Equipment Manufacturers, New York, closed the meeting with one of his well-known inspirational talks on the CP range. "Sell the Seal That Seals the Sale" was his message.

### Refrigerator Contest Leaders Announced

GAS companies with the highest number of installations to their credit as the result of sales made during April in the "Man-the-Sales" or "Flying Cloud" gas refrigeration campaign have been announced by R. J. Rutherford, chairman of the American Gas Association Refrigeration Committee.

In Division 1, in its entirety, Consolidated Edison Co. of New York, reported the greatest total of installations in Division 1; Washington (D. C.) Gas Light Co. had the greatest number of installations per 10,000 meters in the same division; Michigan Consolidated Gas Co., Detroit, reported the greatest increase in installations over April, 1938. In Sections A, B and C, respectively, of Division 1, utilities with the greatest total installations for the month were: The Philadelphia Gas Works Co.; Washington (D. C.) Gas Light Co., and The Brooklyn Union Gas Co.

In Division 2, Providence (R. I.) Gas Light Co. was ahead both in total installations and in greatest number of installations per 10,000 meters. Consolidated Gas, Electric Light and Power Co., of Baltimore, stood second in total installations, and New Haven (Conn.) Gas Light Co. was second in the largest number of installations in the 10,000 meters class.

Leading in the 10,000 meters class in Division 3 were: Florida Public Service Co., Orlando, Fla., first, and Metropolitan Edison Co., Easton, Pa., second. Cen-

tral Illinois Light Co., Springfield, Ill., was first, and Metropolitan Edison Co., second in total installations in Section A of this division. Florida Public Service Co. was first, and Alexandria (Va.) Gas Co., second, also in greatest total installations in Section B.

In Division 4, Ohio Fuel Gas Co., of Columbus, was first, and Michigan Consolidated Gas Co., Grand Rapids, Mich., second in greatest total installations. Central States Power and Light Corp., Tulsa, Okla., was first, and Gas Service Co., Wichita, Kansas, second in 10,000 meters class.

In Division 5, Macon (Ga.) Gas Co. was first, and Natural Gas Company of West Virginia (Alliance, Ohio), second, in greatest total installations. Ohio Fuel Gas Co. (Coshocton Branch), Cambridge, Ohio, was first, and Macon Gas Co., second, in the 10,000 meters class.

In Division 6, Virginia Gas Distribution Corp., Staunton, Va.; Kentucky Natural Gas Corp., Owensboro, Ky.; Virginia Gas Distribution Corp., Lexington, Va., and Ohio Fuel Gas Co. (Dresden Branch), Cambridge, Ohio, stood respectively, first, second, third and fourth in greatest total installations.

The campaign is conducted by the American Gas Association Refrigeration Committee in collaboration with Servel, Inc., of Evansville, Ind., and the Association of Gas Appliance and Equipment Manufacturers.



## Home Service Course August 22-26

THE annual Home Service Conference and Training Course which has proved so successful in recent years will take place August 22-26 at the Chapman Park Hotel, Los Angeles, California. The conference is sponsored by the Home Service Committee of the American Gas Association under the chairmanship of Gladys B. Price, Southern California Gas Co., Los Angeles.

Participants in the program include home service workers and sales managers who will discuss a wide variety of topics. Among the subjects to be covered are: home service as an aid to sales promotion, operation and practical use of modern gas appliances, the story of the A. G. A. Testing Laboratories, kitchen planning in homes and school laboratories, aims and requirements for home service work, platform demonstrations and home call work.

The conference and course are designed to picture the latest in gas equipment and home service developments. Reservations should be made directly with the Chapman Park Hotel. Further information may be obtained from Jessie McQueen, American Gas Association, 420 Lexington Ave., New York, N. Y.

## CP Summer Campaign

DURING May the CP summer campaign book was sent to key executives in the gas industry as well as to over 12,000 retail gas range dealers. The book contains 12 pages and each page, except the last, carries a "Sell-a-Gram" message, simulating a regular telegram.

The cover includes illustrations of the Gas Industries' exhibits at the New York and San Francisco Fairs. The headline reads: "Thousands of Happy Homemakers From Coast to Coast Will Enjoy Cool Kitchens This Summer with Certified Performance Gas Ranges."

Emphasis is placed on the replacement market of obsolete ranges, and the coolness, cleanliness and modernity of the CP gas range.

## Plumber Dealer Essay Contest Winners

WINNERS of an essay contest in which plumber dealers in all parts of the country competed for cash awards offered by the Association of Gas Appliance and Equipment Manufacturers as part of the current promotion campaign for the sale of automatic gas water heaters, have been announced. The contest was conducted under the direction of the National Automatic Gas Water Heater Sales Committee.

A committee of judges, composed of editors of leading plumbing trade publications, awarded A. S. Betzer, of the Jamieson-McKinney Co., of Ithaca, N. Y., the first prize of \$500. The judges of the competition, which closed on April 1, were:

L. N. Heatherton, president, *Plumbing & Heating Trade Journal*; R. W. Sawhill, vice-president, *Domestic Engineering*, and Harold Springborn, of *Gas Appliance Merchandising*. Assisting the judges were H. N. Ramsey, chairman of the sales promotion committee of the gas water heater division of the Association of Gas Appliance and Equipment Manufacturers, and John W. Clark, chairman of the American Gas Association's water heating committee.

The second prize of \$250 was awarded to Kenneth G. Wigle, of the Bruce Wigle Plumbing & Heating Co., of Detroit, Mich.

Edward Zien, of the Zien Plumbing & Heating Co., of Milwaukee, Wis., was granted the third prize of \$150.

The fourth prize of \$100 was presented to George Stoddard, of Berkeley, Calif.

Honorable mentions were granted to V. J. Killien, of Winnetka, Ill.; G. D. L. Raymond, of Stamford, Conn., and J. N. Royce, of Richmond, Va.

This plumber dealer essay contest, announcements of which were mailed to more than 28,000 plumbers in all parts of the country, was the second to be conducted this year by the National Automatic Gas Water Heater Sales Committee. The first competition was open to all utility company employees.

Plumber dealers wrote their essays on the subject: "What the Promotion of Automatic Gas Water Heaters Has Done for My Business." There were no restrictions as to the number of words a contestant could use. Awards were based entirely on the excellence of the papers submitted.

**CIRCULATION**  
 Distributed to  
 Salesmen and  
 Dealers registered  
 in the  
 CP Ranger Club



# RANGER

## NEWS

Ranger Club of the  
American Gas Association  
U. S. Patent Office is Pending

**WEATHER**  
 Atmosphere  
 Control of  
 Competition by  
 25 CP Ranges

Vol. I
MAY, 1939
No. I

# 8,169 VIE FOR CP HONORS!

### 25 CP RANGE SALES WIN CERTIFIED PERFORMANCE SELLING AWARD

Admission into the CP Ranger Club is open to all dealer and gas company salesmen who sell 25 CP Ranges in 1939. If registered before June 1, sales from Jan. 2 will count. Otherwise, only sales after date of registration will apply. Sales supervisors, managers and dealers become CP Rangers when 50% of the salesmen they supervise qualify.

Membership for one year only. In succeeding years, members must re-qualify on the basis of that year's satisfactory requirements. A handsome "Ranger" lapel pin, certificate of selection, membership card and a letter of appreciation will be issued to successful "Ranger" candidates.

**"Star Ranger" Distinction**  
 Next highest "Ranger" distinction is "Star Ranger" which is earned when 50 CP Ranges are sold during the calendar year. Supervisors, managers and dealers achieve "Star Ranger" status when 75% of their salesmen fulfill "Ranger" requirements.

In the 6th consecutive year of qualification for either "Ranger" or "Star Ranger" title, salesmen become "Royal Rangers" respectively. Their consistent accomplishment entitles them to the beautiful "Royal Ranger" pins and other special honors.

**National and Regional Officers**  
 The CP Ranger who sells the nation's greatest number of CP (Continued on page 5)

### RANGER CLUB REGISTRATIONS POUR IN FROM 31 STATES

First Returns Show Salesmen Battling for National and Regional Titles

NEW YORK, N. Y. (CP)—With applications pouring in to CP Ranger Club headquarters at the rate of approximately 150 a day, registrations of utility and dealer gas range salesmen passed the 8,000 mark as the CP Ranger News went to press. Gas companies scattered over 31 states and located in every one of the CP Regional Divisions have registered.

Early reports indicate that gas range sales for 1939 will top records for previous years with CP Ranger accounting for 30% to 50% of total sales. Industry leaders predict that the percentage of CP sales to total gas range sales will jump substantially from year to year, with the possibility of having 75% of all gas ranges sold bearing the CP seal.

**Competition Strong**  
 Incomplete reports received at CP Ranger Club headquarters for the first quarter of 1939 indicate that 1,600 utility and dealer salesmen will qualify for CP Ranger Club by selling 25 CP ranges in 1939, with the honor of wearing the CP Ranger badge and obtain their CP Ranger Certificate of Certified Performance Salesmanship.

All salesmen should be sure that their sales record is filed with CP Ranger Club headquarters as soon as they have sold 25 CP ranges.

### CP Helps Boost Range Sales 35%

NEW YORK, N. Y. (CP)—Gas range sales in the first three months of 1939 were 35% greater than in the first three months of 1938, according to figures just released. Interest in and promotion of CP ranges were largely responsible for this increase, say leading industry executives.

### RANGER CANDIDATES GET NEW PIN

Because of numerous requests received from all parts of the country for such as lapel pins, every salesman registered in the CP Ranger Club will receive a CP Ranger pin. The sale of 25 CP's entitles you to a handsome, bronze CP Ranger pin. When you qualify for membership the second and third year, this badge will be issued in silver and gold, respectively.

When you become a "Star Ranger" your Ranger pin will be issued with a brilliant, full-cut diamond. Additional diamonds will be added for each year you achieve Star Ranger membership.

Silver "Royal Ranger" emblems will be awarded to "Rangers" for four consecutive years, with a gold insignia for the fifth year. "Star Rangers" for the fourth and fifth years will have diamonds accumulated to date inset in the "Royal Ranger" pin to establish them as "Royal Star Rangers."

### "MAN BITES DOG" IN DALLAS



DALLAS, TEXAS (CP)—When John Young and Tom Taylor of the Dallas Gas Company turn their sales statistics on themselves and join the enthusiastic ranks of the CP

### Cool Cooking CP Campaign Theme

NEW YORK, N. Y. (CP)—"Cool Cooking," "Cleaner Cooking," "More Modern Cooking" will feature the July and August Summer CP range campaign to be released to all gas companies and 14,000 gas range dealers on May 15.

Included in the portfolio will be the successful CP Sales Maker now available in 8 1/2" by 11" loose leaf form. It can be inserted in a standard ring binder such as the majority of salesmen carry. The campaign will also include "Brass Back" suggestions on how to increase sales, animated flow and window displays, the popular CP T-shirt, advertisements and direct mail material.

### 26 Manufacturers Back CP

Up through May 10, 26 gas range manufacturers have signed the CP range program and are promoting CP ranges, according to Alton Tappan, Chairman of the Sales-Management Committee, Domestic Range Division of the A.G.A.E.M.

"The CP program is one of the greatest cooperative undertakings in the history of the gas industry," said Mr. Tappan, interviewed recently.

First edition of the CP Ranger News is filled with stories of successful salesmen and latest news of CP range activities. It was mailed to 12,000 dealer and utility salesmen who are enrolled in the CP Rangers Club, the national society of leading gas range salesmen



# Industrial Gas SECTION

F. H. TREMBLY, JR., *Chairman*  
F. T. RAINEY, *Vice-Chairman*  
E. D. MILENER, *Secretary*

## Economics and Sales Possibilities of Gas Engines



D. W. Reeves

**M**Y subject "Economics and Sales Possibilities of Gas Engines" can, for purposes of analysis and discussion, be divided into four parts—all closely related and yet distinctly different.

Economics—Yes, but from whose point of view? The gas utility's? The

customer's? Our answer is, from the gas utility's, but we can't forget that economics from the customer's point of view govern the results that can be obtained by the utility. If the economics are wrong from the customer's point of view we certainly would be wasting time with this discussion.

### Sales Possibilities

Now, as to "sales possibilities." Do we mean possible sales of gas engines or are we talking about gas engines as a means of increased gas sales. The manufacturer's answer is "gas engines" but the only possible answer for us as utility men is "gas sales." This explains a fundamental difference in the manufacturers' and utilities' points of view. Our interest is in the successful operation of engines and not in the sale of engines, except as the handling of the sale affects the actual operation of the plant.

We are then attempting to analyze and correlate four distinct and yet closely related points of view in this discussion. They are:

1. Economics from the point of view of the gas utility seeking a profitable outlet for its service.
2. Economics from the point of view of the customer seeking a reduction in power costs.
3. Sales possibilities from the point of view of the engine manufacturer who is seeking to sell his product.
4. Sales possibilities from the point of view of the gas utility; that is, not the gas engine as a piece of equipment but as a consumer of our product—gas.

We as gas utility men are primarily interested in the economics from our view—

Presented before Annual Convention, Natural Gas Section, American Gas Association, Tulsa, Okla., May 8-11, 1939.

By D. W. REEVES

*Oklahoma Natural Gas Co., Tulsa, Okla. Chairman, Gas Engine Power Committee, Industrial Gas Section*

point. What are the possibilities of the gas engine's adding profitable business to our lines? Is gas engine load good business for the gas utility and if so, do gas engines offer sufficient economies to customers to enable us to promote their sale and use by the customer?

The field of application for gas engines is wide and varied, and is constantly changing with the constantly changing competitive picture, but we do know that there has always been a large diversified field for gas engines and we believe that one will always remain. Experience has shown us that one of the best fields of application will be found among commercial and industrial establishments for electric power generation and for mechanical drives.

### Load Factor

The load factor of such establishments will average from 30 to 50 per cent on an annual basis. Taking the lower figure of 30 per cent annual load factor, each horsepower of gas engine load connected will operate the equivalent of 2,500 hours at full load annually. Using the conservative figure of 10 cubic feet of 1040 B.t.u. gas per horsepower hour as a basis, then each horsepower hour connected will use at least 25,000 cubic feet annually. If we take a figure of 25¢ per M cu.ft., this means a revenue of \$6.25 per horsepower connected per year. A little arithmetic shows that a thousand horsepower means \$6,250 in revenue annually, and that ten thousand horsepower means \$62,500 in annual revenue.

This is not an overly optimistic estimate of possibilities of revenue producing potentialities of gas engines. It is conservative. Let me add that you don't have to serve a very great number of customers to be able to develop a large number of horsepower either. Several companies in average territories have developed more than 200 horsepower per thousand customers served without any great effort on their part.

The foregoing figures, most of which are theoretical, are substantiated by studies made by my company. These studies indicated an annual gas consumption of approximately 25,000 cubic feet per horsepower connected for the 35,000 horsepower which we serve.

Gas engine business is a load that is evenly distributed over every day of the year and, to get ahead of our story somewhat, can be sold at a very satisfactory rate. As for the market, experience has shown us that there are a large number of medium size commercial and industrial establishments requiring power, which if purchased runs between \$75 and \$400 per month, that offer a most attractive field for gas engines.

In addition, there are the specialized pumping installations such as irrigation which has been developed in several sections; sand plants; dairies and produce plants; air conditioning loads; and a number of others which could be mentioned. Let me emphasize that gas engines for direct connection to compressors for air conditioning offer a most attractive field. It is a load that comes during the period of lowest demand on the gas utility's system and is one which we should certainly develop to the utmost.

### Customer Economics

Let us see just what the economics of gas engines are from the customer's point of view. What customers can save money by using gas engines. First of all we must eliminate the small customers who pay a purchased power bill of \$75 or less per month. The initial cost of a unit and the cost of service usually prohibit consideration of gas engines for such loads. While I say a \$75 bill, I think that this amount can be reduced by a considerable amount in the not too distant future. However, until the smaller units are reduced in first cost and service organizations are developed to handle the small installations at a more reasonable cost, we may say that any customer with a power bill of less than \$75 per month, based on normal electric rates, will not be interested and should not be considered as a prospect for a gas engine.

The elimination of customers of any class or type is dangerous. For instance, I can easily visualize a customer holding his power bill to \$50 per month by rigid economy because he feels the cost of power is too high. He can't be eliminated. He is waiting to be sold on the advantages of increased usage of power generated at low cost by his own gas engine driven unit. However, \$75 per month is about the minimum in most cases.

A little less than two years ago my company decided to install four small generating plants in four of its district offices to determine to its own satisfaction just what could be done with a small generating

plant. These plants were installed in district offices normally paying power bills of less than \$100 each per month. At the time, the Lycoming people were just beginning to become very active in our territory and after giving consideration to their unit and to the work they were doing in promoting gas engine load, we decided to install four of their 10 kw. units. The average cost of the units installed, including all necessary wiring, was \$1,876 each. The first cost of the units was in line with that which any customer could obtain. In fact, they were installed under more unfavorable arrangements than many customers would face.

During the first twelve month's operation these four units generated a total of 111,500 kilowatt hours at an operating expense of \$2,251. This compared with a purchased power cost of \$4,257 based on the available electric rate. This was a decrease of \$2,006 in operating expense. This decrease in operating expense will pay out the total investment of \$7,506 for the four units in something like 3.75 years. Looking at the installations on the basis of monthly cost, the power bill would have averaged \$89 as compared with an average of \$47 for operating expense on each unit. This is a reduction in operating expense of \$42 per month per unit. From still another angle, the decrease in operating expense is a gross return of 26.8 per cent on the investment. This is certainly more than adequate to take care of insurance, taxes, depreciation and return on the investment; even if the depreciation allowance is as liberal as our competitors claim it should be.

#### *Gas Engine Economical*

I should also like to mention the manner in which the above figures were obtained. First, the loads were about as small as we would ordinarily consider as prospects. I have already mentioned that the first cost of the installations was in line with that which any customer could obtain. Operating expenses were based on the actual measured consumption at 45¢ per M cu.ft., oil was purchased at retail prices, and all repairs were made by the Lycoming distributor and billed at their regular rates. Stand-by service from the power companies was also maintained and is included in the operating expense at the regular rate charged by the power companies. In other words, any customer on our lines could equal the results we obtained and most of them could better them materially.

The customer is interested in the additional time, effort and worry required by a gas engine installation. In making these tests we kept this in mind and the only thing which our district office employees did was to start the units each morning. A time clock stopped the units automatically. When an oil change or additional oil was required they called a filling station. If any adjustments or repairs were required they called the distributor. There was no additional worry for district office employees.

Our experience has proved to us that the gas engine will save money when properly

### **Industrial Sales Conference in Session**

As this issue of the MONTHLY goes to press, the 1939 Conference on Hotel, Restaurant and Commercial Gas Sales, sponsored by the Industrial Gas Section, is in session at the Hotel St. George, Brooklyn, N. Y. Between 175 and 200 industrial gas men are listening to a program of top-flight speakers. Details of the two-day conference, which closes May 23, will be carried in the next issue.

installed and used, and that arrangements can be made so that there is no additional time, effort or worry entailed insofar as the operation of the units is concerned. We turned the operation of the units over to others, paid for services at the current rate and showed a substantial saving in our power costs.

Other installations which we have checked indicate that as great or greater relative savings in operating expense can be made by nearly all normal industrial and commercial establishments that are paying from \$75 to \$400 per month for purchased power. Below the figure of \$75 per month for power, a gas engine installation, except in rare instances, will not be justified and above \$400 per month the business is a more competitive one. Every sort of prime mover and all possible combinations and sources of power are advanced as the solution to the problem. Numbers of studies which we have made indicate that most of the installations in the class mentioned—that is, whose power bills run from \$75 to \$400 per month—will pay out in from two to five years. Numerous checks which we have made on installations in our territory indicate that these estimates are in line.

By the foregoing I do not mean to give the impression that savings cannot be shown on installations where power bills are in excess of \$400 per month. Studies will show even greater savings in some instances and less in others, due to special rates and unusual conditions, which often apply on these larger loads. The limit is intended only for purposes of generalization and not as an indication that such loads cannot be obtained. For example, we recently figured on a job where the purchased power bill would run approximately \$21,000 annually on an eight mill rate. Our figures show that gas engines will pay out in less than four years. This installation will be made and the customer expects to save approximately \$10,000 per year in operating expenses.

We have also been gratified to find an increasing number of customers extending the use of gas engines to other operations after a satisfactory installation. For instance, we have one customer who has been using gas engines on a sand dredge who has recently placed 325 horsepower in engines in a

sand and gravel plant. Another had 100 horsepower in a dairy and produce plant and is now installing 375 horsepower in a rock crushing plant and intends to install 150 horsepower on a sand dredge in the near future. These installations prove definitely that the gas engine has something to offer to the customer from the customer's point of view.

I have tried to show briefly that the load should be attractive to the gas company and I believe that most of those connected with the gas industry recognize this fact. I have also cited illustrations to show that the economics are right from the customer's point of view. You may, with good reason, ask: "If all of this is true, then why haven't we sold more gas engines?" My brief answer to that question is simply: "We haven't as an industry developed and placed in operation an intelligent sales program."

Now, let us look at "Sales Possibilities"—sales possibilities from the manufacturer's viewpoint and from our own. First of all, as to the number of engines that can be sold, I would say that it is unlimited. Unlimited at present because they are more than enough of the class of prospects mentioned herein to keep every engine company salesman and all of the gas companies' industrial engineers busy for several years.

A moment ago I was free in placing the responsibility for lack of sales. Now I propose to outline in skeleton form a program that I feel will succeed.

#### *Operating Experience*

Perhaps we could get an answer to our failure to sell as many engines as we believe we should have sold and at the same time get an idea of what our sales program should provide by examining a few actual installations. I have in mind an installation that consists of two Buick motors used to drive a rebuilt generator. This particular installation is located in a garage in one of the smaller towns we serve and has operated satisfactorily for a number of years. In checking over the installation we have found that it was installed properly in the first place; that is, it is of adequate capacity to carry the load; piston speed and r.p.m. are reasonable; good foundations and adequate cooling water facilities were provided; and adequate provision was made for proper service. Needless to say this customer is one of our best boosters. In short, a plant built up from equipment salvaged from the junk yard has given good service because of one thing—Good Engineering.

Contrast these results with those obtained by another customer that installed a small plant to handle the light and power load of a small sandwich shop. This customer bought what he thought was the best of new equipment to handle a 7½ kilowatt load. He spent enough, about \$2,700 in all, and when he got through he had nothing. Within six months the investment was written off and the plant was abandoned. Checking the plant it was found to have: first, inadequate capacity; second, excessive piston speed and r.p.m.; third, inadequate



cooling; and fourth, no provision for service. In short—Bad Engineering.

Half the money spent on that installation would have paid for an excellent plant if good engineering had been provided. With good servicing arrangements such a plant would have operated for years with profit to the customer and to the gas company. Further it would have helped the manufacturer sell other engines. As it is, gas engines haven't been sold in that town. The competition has made an excellent sales tool of that customer's experience. The point of all this discussion is simply that we have allowed improperly engineered plants to be installed in the past and their failure has prevented the sale of other installations. These examples are typical of many that could be pointed out. Our sales program must certainly include:

First, provision for good engineering.

Second, provision for intelligent service through selection of prospects or by developing service organizations.

My own company has definitely adopted the policy that gas engines shall only be sold under conditions that will assure successful operation and satisfaction to the customer.

#### *Importance of Good Engineering*

If you think that this point isn't important, check with your industrial engineers and see how many times the competition uses a list of plants which have failed in all parts of the country as an argument why the gas engine prospect should not install a gas engine plant.

To further illustrate the importance of good engineering, I would like to mention an installation which was made on our lines sometime ago. The plant design provided for the engine operating at 800 r.p.m. The contractor, when installing the engine, found that he had a pulley which would satisfactorily fit the job if the engine ran at 690 r.p.m. The contractor worked everything out. If the engine was slowed down he felt that this would result in a longer

life for the engine. He would save buying a pulley and the customer would have a better installation. He didn't realize that he was reducing the capacity of the engine. The result was that the engine failed in less than 60 days. We then made the check which should have been made immediately upon the completion of the installation and soon found that the engine had been running at only 690 r.p.m. We arranged to have the pulley changed and the engine repaired. That was about nine months ago and the engine is still operating satisfactorily. There are a dozen other similar troubles, all of which contribute to engine failures and all of which can be corrected prior to the engine's being placed in operation if we or someone provide good engineering.

#### *Proper Service Essential*

Service is, in my opinion, most important. Some gas companies have developed service organizations with excellent results. However, it is my belief that most of us will have to develop outside agencies. In many instances we can pick our customers and assure proper service through the customer's own organization. Sometimes we can interest others in providing service at reasonable cost. We have found it possible to develop some pretty good gas engine service facilities through garages. Where power generation is involved, garage mechanics cooperating with electricians have worked very satisfactorily in some instances.

And now, what about financing. Nearly everything we buy today can be purchased on some sort of a long term finance plan. There is no valid reason why gas engines should not be available on the same basis. They just aren't as a rule. In our experience we have found that when credits are good, our local banks are perfectly willing to work out a reasonable finance plan that will be applicable. This has been about the only satisfactory means of financing which we have been able to develop to date. We know that work is being done by the manufacturers in working out a means of

financing their products and this undoubtedly will be of material assistance in the future. In this connection, it is our opinion that the manufacturer is the one with whom the responsibility for working out finance plans must ultimately rest. The large initial investment in equipment as compared with the comparatively small revenue through the sale of gas for the operation of the unit, makes it difficult for the gas utility to justify any great investment in such financing.

I might mention now that we are reliably informed that the General Motors Corporation will be actively interested in the promotion of gas engines in territories where natural gas is available at reasonable rates. In fact quotations have been made in several instances in our territory. They undoubtedly will provide a reliable and satisfactory financing plan for their engine. Other manufacturers will have to do likewise if they are to maintain their positions. All of this is, of course, good news to all who are promoting gas engine sales. Certainly any plan that will enable gas engines to be purchased on time payments will reduce sales resistance and produce sales. It gives the added inducement of the so-called "pay out of savings" plan. Then as our third plank, let us add:

Provide the best finance plan that can be developed for the particular territory.

I've talked a lot about good engineering and servicing, and some about financing; but remember this, good engineering, servicing, and liberal financing will never get the order. It takes salesmanship and merchandising to accomplish that. Unsatisfactory installations caused by bad engineering can place obstacles in the way of sales that salesmanship and good merchandising can only overcome with the greatest difficulty. But, again I say, it takes a good salesman to get the order. Remember this when you select men to place in the field. Use engineers, but realize that comparatively few engineers are good salesmen. You want one that is, and that is one of the best.

So to a sales program that provides:

1. Good Engineering
2. Good Service
3. As Good Financing As Can Be Arranged

we add the fourth and final plank, and the one that will, if the first three are satisfactorily provided, determine the degree of success we will obtain:

4. A Sound Merchandising Plan and a Good Sales Personnel.

This is the side of your program the public will see and from which you will receive your orders. It must be based on the solid foundation of satisfactory installations. Provide good salesmen—the best, borrow from every merchandising plan you know of that works, use showmanship, get your employees tied in, and you will find gas engines are just another item of merchandise that can be sold.

My associates and the company with

### **INDUSTRIAL & COMMERCIAL NATIONAL ADVERTISING FOR JUNE**

The Advertising Committee of the Industrial Gas Section, J. P. Leinroth, chairman, and F. B. Jones, vice-chairman, announces that full-page advertisements will appear in the following trade and business magazines during the month of June:

Magazine	Date	Topic
American Restaurant	June	Gas for Commercial Cooking
Bakers Helper	June 10	Improved Bake Ovens
Bakers Weekly	June 3	Improved Bake Ovens
Ceramic Industry	June	Gas in the Ceramic Industry
Food Industries	June	Gas for Heat Processing of Foods
Hotel Management	June	Gas for Commercial Cooking
Industrial Heating	June	Gas for Heat Treating Metals
The Iron Age	June 29	Gas for Heat Treating Metals
Metal Progress	June	Gas for Heat Treating Metals
Metals and Alloys	June	Gas for Heat Treating Metals
Modern Beauty Shop	June	Gas Hair Dryers
Modern Hospital	June	Gas for Commercial Cooking
Steel	June 26	Gas for Heat Treating Metals

which I am connected believe in this business. In two years we have added 15,000 horsepower to the 20,000 horsepower that we had. It isn't much compared to the potential business we can see, but it is a start and our rate of securing this business is increasing. The point is that it took a good many years to get the 20,000 horsepower. Two years of planned effort, based on the fundamentals or on what we believe to be the fundamentals as I have outlined them in this paper, brought us 15,000 horsepower—6,000 the first year and 9,000 the second.

## Key Men Address Industrial Gas Sales Conference



Walter C. Beckjord

INDUSTRIAL gas sales not only have become the barometer of business activity but are assuming increasing importance in the gas industry set-up, Walter C. Beckjord, vice-president and general manager, Columbia Gas & Electric Corp., New York, told the industrial gas sales conference in Tulsa, Okla., May 8. Mr. Beckjord, who is also vice-president of the American Gas Association, spoke at the luncheon session on the topic, "Management Views the Growing Industrial Gas Load." His com-

prehensive talk was one of the highlights of the entire natural gas convention.

Crowded attendance and vigorous discussions featured the conference, which was ably conducted by Frank H. Trembly, Jr., and Franklin T. Rainey, chairman and vice-chairman, respectively, of the Industrial Gas Section. J. H. Warden, general sales manager, Oklahoma Natural Gas Co., presided at the luncheon meeting.

George W. Rowland, Cities Service Gas Co., Bartlesville, opened the morning session with a thought-provoking paper on the "Possibilities and Effect of Oil Industry Loads on Gas Companies' Earnings." This was followed by a penetrating analysis of the gas summer air conditioning market by Charles R. Bellamy, chairman, Industrial and Commercial Air Conditioning Committee. Mr. Bellamy's clear-cut picture of the equipment and possibilities in this field attracted widespread interest.

A study of the economics and sales possibilities of gas engine loads by D. W. Reeves, chairman, Gas Engine Power Committee, which appears on the accompanying pages, concluded the morning session.

Two papers made up the formal afternoon program, which was augmented by considerable discussion. The first by Charles F. Hennessy, Public Service Co. of Northern Illinois, Chicago, advocated a salesman's approach to industrial gas prospects rather than an engineer's. The second by Chairman Trembly covered the "Importance of the Industrial Gas Section's Function to the Industry." The latter paper will be published in an early issue of the MONTHLY.

## GOING AHEAD with Industrial Gas

In Manchester, England, smart industrial gas engineers recently added a welcome mite of load by rigging up a thermostatically controlled gas-heated drier for zinc lithographic plates (see "Industrial Gas Times," Feb. 1939). The device proved as helpful to the printer as it was simple to design. There are 32,000 printing establishments in the U. S. keeping more than 110,000 presses busy. Is there an idea here?

How do you like the slogan for industrial gas, "You Always Find GAS Preferred Where Results Count." Cincinnati is using it effectively.

About 200 reprints of our illustrated article, "Dehumidified Air Improves Candy Packing and Storage," which was featured in the March issue of "Manufacturing Confectioner," are still available at A. G. A. Headquarters for gas men who want help in selling industrial summer air conditioning. It's your publicity; get a few reprints of it and put it to work on your prospects' desks.

Submerged natural gas flames have been treating Oklahoma City drinking water since August. "Recarbonation" of municipal water supplies with compressed CO<sub>2</sub> is standard procedure—but doing it with under-water flames whose products of combustion discharge directly into the water is a new trick. Reports indicate increased efficiencies, better control, cheaper operation, simpler installations.

Everyone seemed to think that the Industrial Gas meetings and luncheon at the Tulsa Natural Gas Convention were tops. Men from all sections of the country joined with the fellows from the southwest in presenting and discussing six excellent papers.

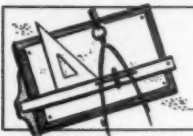
And now some of the bakeries are using paper pans for baking pies. Claim 15% quicker baking time than in tin, and tastier pies, too.

Out after the metal cutting and welding load? Harris Caloric, maker of city-gas-oxygen torches, offers an 8-page, 2-color catalog which should help a lot—especially because half of its pages are devoted to case-history testimonial letters and long lists of big-timers who cut, braze, scale, scarf, deseam, or weld with city gas. Harris will imprint your company name for you on the back page and give you copies to mail to prospects.

## Cooperative Gas Hotel Exhibit



Sponsored by the New Jersey Gas Association, the cooperative gas exhibit at the annual spring show of New Jersey Hotel Association, held April 25-28 in Atlantic City, attracted much favorable comment from the 2000 visiting hotel people. Manufacturers who participated included: Standard Gas Equipment Corp.; American Stove Co.; G. S. Blodgett Co.; and Detroit-Michigan Stove Co. Atlantic City Gas Co. also had a booth in the exhibit. People shown in the picture are: L. N. Yetter, H. W. Wathen, Paul Peters, C. G. VanNote, C. A. Shear, C. H. French, J. N. Norton, H. W. Arthurs, and H. A. Sutton.



# Technical SECTION

F. M. GOODWIN, *Chairman*  
A. M. BEEBE, *Vice-Chairman*  
H. W. HARTMAN, *Secretary*

## Distribution Men Review Year's Developments at Highly Successful Conference



Charles F. Turner

THE sixteenth Annual Distribution Conference was held at the Palmer House in Chicago, Illinois, on April 17, 18, and 19. Over 400 delegates were in attendance when Chairman Charles F. Turner called the meeting to order at 10:00 A.M. on Monday.

After a few opening remarks the Chairman introduced George F. Mitchell, president of The Peoples Gas Light & Coke Company of Chicago, who welcomed the delegates to Chicago and placed at their disposal all of the facilities of the local company.

Major Alexander Forward, managing director, American Gas Association, made a special trip to Chicago to greet the distribution men. Major Forward spoke briefly of the possibilities of damage to gas distribution systems by aerial attack in case of war. He said that experiences during the World War indicated that there is little to be feared from such attacks as far as serious impairment of gas service is concerned. He paid tribute to the distribution men of our industry for their efficiency, watchfulness and resourcefulness in preventing disaster and interruptions of service during times of stress or during a war.

### Appliance Servicing Keynote

In keeping with the ever-increasing interest in the proper installation and servicing of appliances the entire first day was devoted to papers and discussions on these subjects. T. J. Perry of Brooklyn, following Major Forward, opened up the discussions with a "keynote" paper on appliance servicing. Mr. Perry's comprehensive and provocative paper was reproduced in full in the May issue of the MONTHLY.

For the first time since making its appearance in the field, the CP gas range was given a place on the program of the Distribution Conference. Considerable time was spent in discussing those features of the CP range which might bring new problems to the service man.

J. M. Pickford of Hammond, Indiana, who has long been active in the Indiana Gas Association, presented a paper on the "Indiana Gas Association Servicing Com-

mittee's Preparedness Program on CP Gas Ranges." The paper described investigations which were made by co-operating companies in the Indiana Association and by Purdue University on the performance of CP ranges under conditions which might be encountered in the field.

One of the results of the investigations was a recommendation that individual regulators be used, both for the purpose of obtaining better burner efficiency and lower pilot consumption. No unsatisfactory features were found which would indicate any serious service problems in the field. As a further project of the activities, the Indiana Committee has outlined a proposed service manual on CP ranges to be placed in the hands of all service men. This manual would be revised and supplemented from time to time.

In the discussion of Mr. Pickford's paper considerable emphasis was placed on the recommendation that individual regulators be used. Some felt that this was an unnecessary procedure likely to complicate rather than simplify service problems. A discussion of oven regulator calibration also came up. There seemed to be a feeling that the usual glass oven thermometer did not follow fast enough the rapid temperature rises found in CP ovens. This factor is



Three mainstays of the conference: L. J. Willien, Chicago, O. R. Allgeier, Webster Groves, and V. C. Hoddick, Rochester



Miss Jeanette Campbell, of Cleveland, had the distinction of being the only woman on the conference program. Shown with her is B. H. Elliot, of Birmingham

thought to account for many cases of alleged oven regulator maladjustments. It was proposed that thermocouples be used in place of the thermometers, since they respond practically instantaneously.

The last paper on Monday's session on appliance servicing was presented by Miss Jeanette Campbell of Cleveland, Ohio. Her paper was entitled "Appliance Servicing from a Woman's Viewpoint." She presented the reactions of the housewife to the modern range, her ideas of the gas company and its service, and some of the things which the housewife would like in her new appliances. Miss Campbell stressed the importance of proper handling of the consumer by the service man.

### Luncheon Conferences Popular

Four luncheon conferences were held on Monday afternoon: (1) Construction, (2) Maintenance, (3) Appliance Service Installation and (4) Meters and Metering. L. W. Tuttle and Clayton Nairne acted as chairman and co-chairman, respectively, of the group on Construction; Lester Eck and Thomas Ford on Maintenance; W. M. Little and K. R. Knapp on Appliance Service Installation and A. W. Fuller and John Overbeck on Meters and Metering. Much



credit is due these gentlemen for conducting very lively and profitable discussions in their respective groups.

At the round-table discussion on Construction considerable time was spent in discussing bridge crossings, the use of double random length pipe, the laying of cast iron pipe with mechanical joints, service connections at mains, couplings for services, field coating of pipe joints and contract work versus company-employee work on laying of mains and other construction work.

In the round-table group on Maintenance some time was spent in discussing the use of carboseal and other materials for sealing joints in cast iron mains. A new tool developed for applying bell clamps through a very small street opening was described. With this tool the work may be carried on at considerable depth through a hole made by a post hole digger. Further development and use of the Chicago Leak Locator was described.

The large attendance at the luncheon session on Installation and Servicing of Appliances indicated the keen interest in this subject. In this group the subject of regulators on individual appliances came up and took much the same trend as in the morning session following Mr. Pickford's paper. Mr. Knapp of the Testing Laboratories described the operating characteristics of appliance regulators and the requirements of test they must meet.

The use of pilot light filters was discussed at some length. A type which has proven very satisfactory on vapor phase gums was described in detail and a list of manufacturers who make it was given. The cost is nominal and indications are that such a filter will function without attention or replacement for a number of years.

#### *Installation Practice Discussed*

Considerable time was devoted to an exchange of ideas and company practices on the inspection and adjustment of gas appliances before installation in the consumer's home. Many companies pre-cool gas refrigerators before installation as well as adjust for the particular gas condition all gas ranges and water heaters sold by the gas company. It was felt that the first few days in the consumer's home were the most critical in the life of any appliance, for during that period the consumer formed his or her opinion of it from its general performance. It was pointed out that where a large percentage of the appliances sold in a community are sold by dealers, special effort should be made to supply them with as much training and instruction in proper installation and servicing methods as possible.

The group which gathered to discuss Meters and Metering found a number of interesting topics to talk about. Several opinions were given as to the proper basis on which to condemn meters. The general conclusion was that before any general policy of condemnation should be set up a standard system of meter shop records should be adopted. Many companies reported tests going forward on leather substitutes for meter diaphragms. No one has had these in use long enough to warrant any fixed opinion as to their ultimate superiority over leather.



*From widely scattered points came C. W. Barthelmes, Chicago; C. J. Dodd, Lawrence, Kan.; E. P. Hennek, Lincoln, Neb.; and A. V. Brashear, Detroit, Mich.*

The valuation of the benefits which might derive from the use of direct reading indexes came up for comment. The observation was made that the meter reader must be closer to the direct reading index to make certain his reading than is the case with the present index. It was also mentioned that the hands under some circumstances could take such a position as to make the reading uncertain.

A number of other subjects referring particularly to standardization of parts and elimination of guide wires were presented. It was thought advisable to leave the guide wires on the larger size of positive meters but that they might be taken off or omitted from the smaller ones.

The four round-table conference groups completed a very profitable afternoon at approximately the same time: about 4:30.

#### *Rural Gasification*

On Tuesday morning the session was opened with a paper by J. Woodward Martin, sales manager of the Stargas Department of the Lone Star Gas Company. The subject of his paper was "Rural Gasification Activities." Instead of reading the paper, Mr. Martin presented a film which described in great detail the complete story of supplying with gas service the large potential market beyond the gas mains. The Lone Star Gas Company manufactures its own tanks and regulating equipment, installs them, fills and keeps full each tank, installs appliances and in every way furnishes a complete gas service to this class of customer. This film received many favorable comments.

A. V. Smith, chairman of the Subcommittee on Pipe Coatings and Corrosion, described the work of his committee during the past year and, particularly, the activities of the Association's research man, Dr. Ewing. During the past six months Dr. Ewing has developed some new electrodes for use in cathodic protection work. These electrodes are being patented through the United States Bureau of Standards and the patent will be dedicated to the free use of the public. Mr. Smith told, also, of the participation of the Association in a world wide

study of corrosion problems. Mr. Smith is the Association's contact man in this work.

Dr. Ewing followed Mr. Smith with a short paper in which he told of his development work of the so-called "half-cells for measuring potentials in the earth" and described how they will aid in bringing about an approved technique in cathodic protection work.

#### *A. G. A. Standards*

K. R. Knapp, chief engineer of the American Gas Association Testing Laboratories, in a paper entitled, "Significance of A. G. A. Requirements to the Operating Engineer," described the various sets of requirements under which appliances are tested by the Laboratories. The constantly increasing number of appliances and the increasing number of automatic devices used on modern appliances has made it difficult for the operating engineer to keep intimately in touch with all the various requirements. In the limited time at his disposal Mr. Knapp took up each type of appliance or control device and described certain details of its operation. An idea of the magnitude of the work of the Laboratories on appliance testing may be judged from the fact that since the establishment of the Laboratories, some thirty thousand individual models of appliances have been certified by test and inspection, and the current issue of the Laboratories' Directory of Approved Gas Appliances and Listed Accessories contains approximately eight thousand separate and distinct models.

In the Tuesday afternoon session Fred Goodwin, of Boston, presented for an especially appointed subcommittee a Resolution of Respect for William Lawton, Jr., department of public utilities, City of Richmond, Virginia, who passed away last January. Mr. Lawton was long a member of the Distribution Committee and was well known among gas men.

A. W. Fuller, chairman of the Subcommittee on Meters and Metering, presented a complete report on the accomplishments and projected activities of his committee. Mr. Fuller offers many things to think

about and meter men everywhere would do well to read his report.

As a contribution of the Subcommittee on Meters and Metering, Henry S. Harris, of the Southern California Gas Company, Los Angeles, prepared but could not present a paper entitled, "A Method of Prognosticating Meter Errors." In the absence of Mr. Harris, John Overbeck, of Columbus, read the paper and helped in the discussion. The paper suggests a method for determining meter conditions by the statistical treatment of the meter shop data usually taken. By plotting in a manner described by Mr. Harris the number of slow meters and fast meters which pass through the repair shop, it is possible to prognosticate the probable future trends in meter accuracy. By analyzing the curves obtained, the author has found his method helpful in determining such things as leaking stuffing boxes, effect on diaphragms of varying gas conditions, difficulties in valve operation, etc.

At the end of the Tuesday afternoon session the delegates were invited to make an inspection trip of the year-round air conditioning system with which the Palmer House hotel is equipped. A representative of the company which furnished the conditioner was on hand to describe its operation and furnish data on the technical questions which were asked. About 200 delegates saw the conditioner in operation and listened to the description of it.

#### *Pipe Joint Activities*

On Wednesday morning L. W. Tuttle, chairman of the Subcommittee on Pipe Joints and Pipe Materials, presented his report. He explained the main activity of his committee during the ensuing year would be centered around the testing of various types of so-called "boltless couplings." This work will be carried on by Mr. Knapp at the Cleveland Testing Laboratories in much the same fashion as was the work some years ago on leak clamps. The growing popularity of boltless couplings has made evident the desirability of learning the conditions under which they should be installed, the service which may be expected of them and what improvements, if any, could be made. This project will probably take the better part of the year to complete.

Hugh Peden presented for C. C. Simpson, chairman of the Subcommittee on Cast Iron Pipe Standards, a brief progress report. Mr. Simpson is a member of American Standards' Sectional Committee A-21 which is drafting specifications for cast iron pipe. It was announced that the section of standards covering pit-cast cast iron pipe has been printed and is ready for distribution.

The concluding paper on the Wednesday morning session was presented by W. D. Moore, president of the American Cast Iron Pipe Company. His paper was entitled, "Discussion of the New Law of Design of Cast Iron Pipe for Underground Service as Developed by Committee A-21 of the American Standards Association." Mr. Moore is a member of Sectional Committee A-21 and he showed the manner

## Production and Chemical Conference Held

The joint Production and Chemical Conference sponsored by the Technical Section which took place May 22-24 in the Sagamore Hotel, Rochester, N. Y., was held too late to cover in this issue of the "Monthly." An account of the meeting will appear in the next issue.

in which the formulae developed by the A.S.A. should be used in determining the weight of pipe for a given set of conditions. Of particular interest was the interpretation of the formulae under varying conditions of blocking and back-fill tamping. This is the sort of information which many distribution engineers have long been seeking and a good deal of interest was accorded Mr. Moore's presentation. Extensive tables used with the formulae have been prepared and are available upon application to Mr. Moore.

As is customary, the Open Forum on

Wednesday afternoon officially closed the conference. Mr. von Maur, one of the founders of the Distribution Conferences, opened the discussion and much credit for what transpired there should be given him because of the way in which he started things off. During the course of his remarks he mentioned the fact that Fred Goodwin, chairman of the Technical Section, retires in 1940 and that because of his (Mr. von Maur's) long association and high regard for Mr. Goodwin, he had written a poem reciting the fine qualities of this man. He also stated that he expected this to be his last conference, too. The delegates then passed a resolution making Mr. von Maur and Mr. Goodwin life members of the group and expressed appreciation for the contributions to the gas industry which they have made in their years of service. The resolution also expressed regret that these two fine gentlemen have decided to retire from active duty.

A resolution was also passed thanking The Peoples Gas Light and Coke Company for the fine cooperation which they had given the officers of the conference and the delegates in making the meeting so successful. The conference adjourned about 4:00 P.M.

## Transmission and Production Topics Feature Natural Gas Meetings



G. M. Parker

Monday morning, May 8, under the direction of J. H. Dunn, of Amarillo, Texas, chairman of the Production Committee. The transmission conference also took place Monday, consisting of morning and afternoon sessions in addition to a luncheon meeting. George M. Parker, of St. Louis, Mo., chairman of the Transmission Committee, presided at the morning session and George Young, of Detroit, vice-chairman of the committee, conducted the afternoon session.

The following subjects were covered at the production meeting:

"New Uses of Cement in Completing and Reconditioning Gas Wells." By C. P. Parsons, vice-president, Halliburton Oil Well Cementing Co., Duncan, Okla.  
"Cooperation on Problems of Mutual Interest to the Natural Gas Industry and Natural Gasoline Manufacturers." By J. W. Cowles, manager, gas department, Shell Petroleum Co., Tulsa, Okla.

VALUABLE papers on natural gas production and transmission problems were presented at the annual convention of the Natural Gas Section of the American Gas Association, held in Tulsa, Okla., May 8-11. The production conference program was held

"The Feasibility of Recycling Gas from High Pressure Gas Reserves." By William H. Vaughan, Vaughan Gas Process, Inc., Tulsa, Okla.

"An Equilibrium Cell That Provides a Precision Means of Evaluating the Dewpoint of Mixture of Hydrocarbon Fluids as Produced from Wells." By C. K. Eilerts, R. Vincent Smith, and R. C. Wright, U. S. Bureau of Mines, Bartlesville, Okla.

"Application of Well Temperature, Pressure and Productivity Data to the Study of Specific Gas Production Problems." By M. A. Shellhardt, E. J. Dewees, W. H. Barlow, U. S. Bureau of Mines, Bartlesville, Okla.

The meeting was featured by a plea for the gas producers of the nation belonging to the Natural Gas Section of the American Gas Association, to cooperate with members of the Natural Gasoline Association of America, especially in the matter of conservation. The appeal was made by Mr. Cowles who is a director of the natural gasoline group.

James A. Martin, Lone Star Gas Co., Dallas, Texas, speaking at the transmission meeting, outlined a comprehensive system of leak inspection which has proved conspicuously successful in the southwest. Mr. Martin's authoritative study was one of the most important presented at the convention. Another outstanding paper was that on gas hydrate formation in natural gas pipe lines by E. G. Hammerschmidt, Texoma Natural Gas Co., Fritch, Texas.

Other papers presented at the morning session were: "The Use of Carbo-Seal

Anti Leak" by D. B. Williams, Carbide & Carbon Chemicals Corp., New York; "Latest Developments in Pipe Coating Methods" by K. N. Fancher, Northern Natural Gas Co., Omaha, Neb., and "The Foreman's Place in His Community" by Aubrey Boyd, Lone Star Gas Co., Dallas. At the luncheon meeting, R. H. Burdick, Southern Natural Gas Co., Birmingham, Ala., described some of the unusual problems encountered in pipe line operation.

The afternoon transmission session opened with a paper on "Dehydration and Resultant Effects on Pipe Line Carry-

ing Capacity and Operation" by John Clark, Hope Natural Gas Co., Clarksburg, W. Va. Two other subjects covered at this meeting were: "Possible Effect of Lightning on Underground Pipe Lines" by R. G. Strong, Natural Gas Pipe Line Co. of America, Chicago, and "Small Intermediate Compressor Stations as a Means To Increase Main Line Capacity" by H. C. Wallace, chief engineer, Commonwealth Gas System, Inc., New York.

All sessions were well attended and many sidelights were covered in informal discussions.

cible with the heavier tar on account of the heating from the live steam. The tar mixture can then be pumped to the tar collecting or storage tank. The saturator and the craker pipe will be left clean when the tar mixture is pumped out. This whole job can be accomplished in several hours, so that a saturator can be taken off the line, cleaned and put back into operation during the day shift.

Before this method was perfected, it was necessary to float the tar off a side man-hole into wheelbarrows. The procedure took several days and a pit or dumping place had to be provided for the tar.

## HELPFUL HINTS

### DETECTION OF LEAKS IN PRIMARY (INDIRECT) COOLERS

E. A. Pilione

Koppers Company, Seaboard Division, Kearny, N. J.

THIS is a very simple and quick method for determining leakages in primary coolers and depends upon the determination of total calcium and magnesium in the liquor and cooler water. Samples of liquor are taken from each section of the cooler and treated as follows:

#### (1) Quantitative

Evaporate 250 cc. of river water (and 1000 cc. of gas liquor) to about 50 cc., slightly acidify with HCl (using Litmus paper). Add two to three drops conc.  $\text{HNO}_3$  and concentrate to about 25 cc. Remove from the hot plate and add  $\text{NH}_4\text{OH}$  in slight excess (use Litmus paper). Boil for one minute and filter off silica, iron, and aluminum.

The filtrate contains the calcium and magnesium. Concentrate the filtrate to about 100 cc. Add 25 cc. of hot 10% solution of  $\text{Na}_2\text{HPO}_4$ . Add 50 cc. of  $\text{NH}_4\text{OH}$  (Sp. Gr. 0.90), stir, and allow to stand for two hours. The Precipitate of  $\text{Ca}_3(\text{PO}_4)_2$  plus  $\text{MgNH}_4\text{PO}_4$  is filtered off and washed with a 3%  $\text{NH}_4\text{OH}$  solution. Ignite and weigh as  $\text{Ca}_3(\text{PO}_4)_2 + \text{Mg}_3\text{P}_2\text{O}_7$ .

$$\% \text{ Leakage} = \frac{100 (\text{g.p.l. } \text{Ca}_3(\text{PO}_4)_2 + \text{Mg}_3\text{P}_2\text{O}_7 \text{ in Liquor})}{(\text{g.p.l. } \text{Ca}_3(\text{PO}_4)_2 + \text{Mg}_3\text{P}_2\text{O}_7 \text{ in Water})}$$

#### (2) Qualitative

In our experience we found that the quantitative determination was unnecessary and we get quick and satisfactory results by proceeding as follows:

Filter samples and measure out 100 cc. in a 100 cc. graduated cylinder. Add 10 cc. of  $\text{Na}_2\text{HPO}_4$  and 5 cc. of  $\text{NH}_4\text{OH}$  (Sp. Gr. 0.90). Allow to stand until precipitate has completely settled. Compare volume with that obtained from 100 cc. of the cooler water treated in the same manner. The ratio of these indicates the extent of the leakage.

### CLEANING SATURATORS AT A BY-PRODUCT COKE PLANT

H. K. Merker

The Brooklyn Union Gas Company

ONE particularly messy and disagreeable job in operating the By-Product Department of a coke oven plant has been the periodical cleaning of tar from the saturators.

This plant has 3 lead-lined saturators located out in the open, two of which are in operation while the third one is being cleaned or repaired. A concrete pad, acid-proofed with asphalt application, is located under the hopper shaped bottoms of these saturators. One side of the pad is a shallow trough which is pitched to drain into a small sump.

At the bottom of each saturator a flanged connection with acid-proof valve was attached, and a lead blank was inserted after the valve to insure no chance of the mother liquor leaking when the saturator was in operation.

When it is necessary to clean the tar out of the saturator, the latter is first taken off the line and the necessary precautions are observed. The tar floats on top of the mother liquor or it can be made to do so by increasing the strength of the bath while still hot. The mother liquor is then drained off through the bottom valve on to the con-

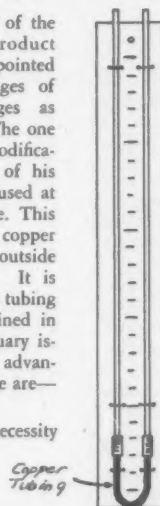
crete trough until the layer of tar is reached. Then the valve is closed. This tar is quite a viscous material when cold, but when hot it can be mixed with production tar and thinned out enough so that it can be pumped.

In order to accomplish this, production tar is pumped into the saturator and also ammonia liquor. The mixture of ammonia liquor, production tar, and saturator tar is then churned up with live steam for about an hour or so. The ammonia liquor neutralizes any acidity due to the saturator tar and the production tar is thoroughly mis-

### IMPROVED AND SIMPLIFIED "U" GAGE

U. GEORGE NAEF of the Chicago By-Product Coke Company has pointed out the many advantages of constructing "U" gages as shown by the sketch. The one shown, however, is a modification and improvement of his idea. A copper "U" is used at the bottom of the gage. This should be made out of copper tubing with the same outside diameter as the glass. It is easy to bend the copper tubing if the instructions outlined in this column in the January issue are followed. The advantages of this type of gage are—

1. It eliminates the necessity of bending glass.
2. It is easy to repair.
3. A longer gage can be made from standard glass tubing.
4. It is inexpensive.



While on the subject of gages, it is worth noting that a scale manufactured by the Meriam Company, Cleveland, Ohio, is admirably suited for this type of gage. It is provided with slots for adjusting to zero.

Garlock rubber tubing holds more tenaciously to glass than any other tubing and is highly recommended for gages and permanent installations.

B. R. Hasselman of the Connecticut Coke Company makes a non-freezing oil, gravity 1.0, for gages by mixing 720 cc. of Halowax oil 1000 and 1050 cc. of absorbent oil, colored with a red oil-soluble dye. This can be used all year round, gives a good meniscus, and the color is permanent.

### Heating Group To Meet

THE annual convention of the National District Heating Association will be held June 27-30 at the Hotel Pennsylvania, New York City, according to an announcement by J. R. McCausland, of the Philadelphia Electric Co., president.



## Furnaces Must Display Type Marking

A NUMBER of instances have been recently encountered where approved warm air furnaces of the gravity type have been installed in conjunction with separate blowers, the assembly thus constituting what is in effect a forced air system. In such instances the presence of the American Gas Association Seal of Approval naturally has created the impression that the entire assembly had been approved as a forced air furnace, whereas, this was actually not the case. This is for the reason that the addition of a blower to a gravity system introduces a number of factors which may affect its operation and additional tests are, therefore, necessary before approval of such a combination can be granted.

In order to meet the existing situation, this question was fully considered by the Approval Requirements Committee and a ruling adopted for application July 1, 1939. This states that all furnaces approved after that date shall bear a permanent marking as to their type. Each gravity furnace is required to be marked "Approved as gravity furnace only," and each blower furnace marked "Approved as blower-type furnace only." This marking will definitely indicate the type of unit to which approval has been granted and will serve to avoid future misunderstandings. In addition, it was also decided that all furnaces, irrespective of their date of approval, shall be required to display such markings on and after January 1, 1940.

## Gas Heads List

IN a new survey of the coverage of magazine audiences undertaken for the weekly magazine *Life*, is a listing of home conveniences. Heading this list of basic economic factors is the number of people living in homes equipped with gas, followed by similar information for electricity, radios and telephones.

## Floor Furnace Tests

A RECENT innovation in floor furnace construction relates to the use of extension heads built integrally with the furnace, the combination being sold as a package unit. In certain cases the furnaces are also provided with a collar for the attachment of hot air ducts leading to adjacent rooms or to upper floors. This has naturally introduced a number of problems in the testing and approval of such units, particularly in view of the necessity for properly limiting the allowable air temperature in such ducts.

After careful consideration of this subject by the Approval Requirements Committee of the A. G. A. Testing Laboratories at its April 21 meeting, a policy was adopted to cover the future testing and approval of such equipment. It was decided that in the case of package units, the length of vertical extension heads should

be limited to four feet above the top of the casing and that of horizontal extensions to the vertical projection of the casing. It was also felt necessary to make provision that floor furnaces equipped with collars for the attachment of extension ducts must not allow a maximum rise of air temperature of more than 160 degrees above room temperature as measured in a two-foot duct attached thereto as in the method of test specified for gravity warm air furnaces. All other tests are to be applied in the same manner as under the existing floor furnace standards. Assurance will thus be had against excessive rise in temperature which might result in a fire hazard to surrounding structures.

It was also decided that in addition to complying with the above features, a permanent notice as follows—"Caution: This furnace must be installed in accordance with the manufacturer's instructions" must be provided on every such floor furnace.

## COURT AND COMMISSION DECISIONS

(Continued from page 218)

In this discussion reference has been made to the change in the rules laid down in court decisions relating to problems of the natural gas industry. The rules affecting our operations are no more static than is the gas that

moves in our pipe lines. Forces are continually on the move to produce change, and as with individuals the only eternal verities in the natural gas business are death and taxes.

<sup>1</sup> Public Act No. 688—75th Congress, Chapter 556—2d Session.

<sup>2</sup> Section 2 (b).

<sup>3</sup> *R. R. Comm. California vs. Pacific Gas & Electric Company*, 302 U. S. 386; 21 P.U.R. (N.S.) 480.

<sup>4</sup> No. 509—October Term 1938, U. S. Law Week, April 18, 1939, p. 49.

<sup>5</sup> *Smyth vs. Ames*, 169 U. S. 466.

<sup>6</sup> Section 7 (c).

<sup>7</sup> *United Gas Public Service Company vs. State of Texas*, 303 U. S. 123; 22 P.U.R. (N.S.) 113.

<sup>8</sup> *Lone Star Gas Company vs. State of Texas*, 304 U. S. 224; 24 P.U.R. (N.S.) 119.

<sup>9</sup> *City of Tezakane, Texas vs. Arkansas Louisiana Gas Company*, 83 Law. Ed. p. 435.

<sup>10</sup> *McCrea vs. Detroit City Gas Company*, 24 P.U.R. (N.S.) 225.

<sup>11</sup> *Public Utilities Fortnightly*, March 30, 1939, p. 444.

<sup>12</sup> *Natural Gas Pipeline Company of America vs. Slattery*, 302 U. S. 300; 21 P.U.R. (N.S.) 225.

<sup>13</sup> *Arkansas Louisiana Gas Company vs. Department of Public Utilities*, 304 U. S. 61; 23 P.U.R. (N.S.) 337.

<sup>14</sup> *Petroleum Exploration, Inc. vs. Public Service Commission of Kentucky*, 304 U. S. 209; 23 P.U.R. (N.S.) 433.

<sup>15</sup> *Rochester Telephone Corp. vs. U. S. and Federal Communications Commission*, No. 481; U. S. and Interstate Commerce Commission vs. Maher, No. 432.

<sup>16</sup> *Federal Power Commission vs. Pacific Power & Light Co.*, No. 508.

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<sup>17</sup> *United States Law Week*, April 18, 1939.

<sup>18</sup> *Coverdale vs. Arkansas Louisiana Pipe Line Company*, 303 U. S. 604.

## Personnel Service

### SERVICES OFFERED

Twelve years' experience—industrial gas utilization—commercial hotel and restaurant sales work—manager thirty-seven thousand meter territory on domestic gas and electric appliance sales for large eastern utility. Prefer position as manufacturers representative or with small utility requiring a man experienced in all phases of gas sales. 1284.

Ten years' diversified sales financing experience. Qualified to promote or manage time-payment financing operations for gas and electric utilities; can develop sound finance plans for dealer sales; also supervise credit and collection operation; thoroughly familiar with sales methods in refrigeration, home appliance, heating equipment, air conditioning fields. 1286.

Seventeen years' important experience in large and small gas plant engineering—design, construction, development, estimating, selling and appraising. Responsible executive positions. Both manufactured and natural gas. Competent to take charge design, construction, appraisal or assist in operating supervision. Especially experienced in water gas plants. Now available. Will go anywhere in U. S. A. 1287.

A highly educated, broadly experienced and widely acquainted sales engineer who is exceptionally gas minded—a colorful, loyal personality who can really sell to public utilities and the heating trade. University graduate and a former artillery officer, twice decorated. A hard, intelligent worker in the field, available immediately. 1288.

Valuation and Rate Engineer. Fifteen years' broad experience in valuation work and rate design of large natural gas transmission and distribution systems. Can qualify as expert witness before federal courts and commissions. Now employed in responsible position in valuation department of major gas transmission and distribution company. Best references given. 1289.

### SERVICES OFFERED

Appliance Service Manager: experience design, manufacture of controls, burners, pilots as well as sale, installation, service of industrial, househeating, refrigeration and domestic appliances. Can set up central department or laboratory for group of companies to coordinate service efforts. Graduate Chemical Engineer. (39). 1290.

Young man (37) fourteen years' experience water heaters—supervisory capacity—charge of service and installations—assistant to branch manager—correspondent—general office routine—special representative contacting architects and utilities—some selling experience—however selling connection not desirable—desires affiliation with utility or manufacturer. 1291.

Accountant and assistant to comptroller; 3 years' industrial work. 14 years' diversified accounting including supervisory public accounting experience, including costs, taxes, system installations and revisions, auditing; specialized in public utilities. Recently completed numerous natural gas financial statements and data for petitions to State Public Service Commission. 1292.

Engineer, superintendent, valuation, manager graduate engineer with broad experience in operation and construction of works and distribution; design, surveys, estimates and procurement for plants including byproduct recovery. Recent experience in valuation of complete gas and other utilities; reproduction, original cost and property records; inventory pricing, cost analysis and assembly. 1293.

Experienced factory sales representative desires connection in that capacity, preferably in the Southern States. Familiar with cooking, water heating, refrigeration, space heating and miscellaneous appliances. Has extensive following among utilities, plumbing jobbers, food service equipment houses, hardware, furniture and department stores and major appliance dealers. 1294.

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